FURNITURE REPAIRING

BY

C. S. TAYLOR

ILLUSTRATED BY 111 PHOTOGRAPHS AND 67
LINE DRAWINGS

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PREFACE

A SKILLED cabinet maker and furniture repairer has here set down his own methods of dealing with a variety of jobs that have actually passed through his hands. There is no theory in this handbook. Mr. Taylor's chapters (which originally appeared in the form of separate articles in *Work*, the Illustrated Weekly Journal of Handicrafts) are in a very special sense descriptions of workshop practice, which can be followed by anybody familiar with the use of tools, whether he be amateur or professional. The photographs showing the work in its various stages were taken by the author himself at my suggestion, and their practical value can scarcely be over-stated.

Chapters VI. and IX. and part of Chapter XV. are contributed by other writers.

Readers who may require further information on any matter discussed in this book should address a question to *Work*, in whose columns expert advice will be freely offered.

THE EDITOR, "WORK."

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FURNITURE REPAIRING

CHAPTER I

Introduction: Tools and Materials

FURNITURE repairing and renovating forms a considerable part of the cabinet-maker's and upholsterer's art. It includes a knowledge of woodwork, upholstery, and polishing, and is interesting work; but it also requires considerable care and skill to do well. Many workers fail at repair work through want of knowledge as to the best and easiest way to do things. Even small repairs often cause much trouble through the common mistake of under-rating the time required to do the work. Repair work is easier and pays better by being handled with intelligence and patience.

The object of this handbook is to describe in a general way methods of doing reliable work. Of course, the cost of labour has to be considered. On this point there seems to be much misunderstanding, and often an estimate for renovating is not accepted because the articles are considered not worth it. It is very seldom, however, that a piece of furniture is not worth repairing. For instance, take a common kitchen chair which, when new, may have cost 5s. After being in use for some time, it might be all to pieces. But on critical examination most likely all the parts are there, and a leg or spindle may be broken. This chair could be properly repaired and re-varnished in less than two hours, and as it would then be stronger and as good looking as new it would be worth repairing. If many of the parts were badly broken or missing, it might not be worth doing. Again, an old mahogany easy chair may be broken or loose in every joint, the upholstery being all tatters, and in such condition as to be quite useless. It may take nearly a week's work to put it in perfect condition, but might easily be worth £5 when finished.

When any parts are missing they should be made good in the same wood, and to the original shape. This is particularly the case with antiques, as sometimes work done, at possibly great expense, with the intention of improving, can reduce the value of the article. Here is a case in point. An antique dealer submitted a plain mahogany corner cupboard to a cabinetmaker inexperienced in antiques. Instead of the original simple cornice mould, a heavy, elaborate one was put on, and the plain doors were inlaid. This proved to be a mistake, as the dealer had difficulty in selling it even at an unprofitable price.

All work should be done in a judicious manner. Re-upholstering should be in proportion to the wood frames. No initiated person would allow a cheap furniture suite to be re-upholstered in best Morocco skins or other expensive material, or a first-class suite to be done in common leather-cloth, velvet, or tapestry; though this latter is often done for the sake of cheapness. There is also a great difference in the inside stuffing and the workmanship of the different classes of upholstery, which will be shown in the pages which follow.

It is intended in this book to illustrate by photographs the work actually going through the workman's hands. Thus the instruction should be almost as valuable as watching the work itself. Common, as well as the better class of, furniture will be shown, and a variety of work will be treated.

The work of repairing and renovating furniture requires a knowledge mainly of woodworking, upholstery, polishing and varnishing. To know something of enamelling, painting and gilding, and to be able to do a little metal work, is also useful. A knowledge of the possibilities of the lathe and other woodworking machines is advisable but not essential; but it is as well to know how to get missing or broken wood-turning, etc., remade at the sawmill. It rarely happens that an upholsterer or a polisher goes beyond his branch, but a cabinet-maker often does. With an all-round experience and a good kit of tools, a cabinet-maker who has made a special study of furniture repairing is capable of setting up on his own account almost without capital Much of the repair work that comes to hand requires no outlay beyond that necessitated by glue, dowels, screws, sprigs, etc.

Generally speaking, it is only about one workman in twenty who can or will mend a break in such a way that the repair is practically unnoticeable and the piece as strong as ever it was. It is a fact that a good workman is often himself surprised at the result and value of a piece of furniture restored by his handiwork. This is particularly the case with antiques, which class of work often requires considerable skill and knowledge. Carving, veneer, and inlay work have to be matched in old wood that has been carefully selected for each particular case, and when the work is skilfully done it is impossible to recognise the new work from the old. This leads on to the making of reproductions of antique pieces of furniture throughout.

Some experience at repair work is an advantage to any maker of furniture, as, by handling such a variety of articles made by other workmen, he acquires a wide knowledge of constructional and ornamental details.

Estimating for repair work can be done fairly accurately as regards re-upholstery, re-polishing, and small repairs to woodwork; but in the case of extensive repairs to woodwork, estimating is often a matter of guesswork. Close examination will, in nearly every case, disclose something wrong which was not at first noticed. For instance, in re-upholstering, after stripping it is sometimes found that the frame joints are loose, and will not stand the strain of re-webbing.

There is no job described in this book but which is within the scope of the careful amateur possessed of skill, patience and conveniences.

There is plenty of good furniture, in all classes of homes, despised and neglected because it has got into bad condition, and plenty more to be had cheap at sale rooms. Solid mahogany, rosewood, or walnut chairs, couches and sofas, chests of drawers, toilet and mantel mirrors, tea boxes, writing desks, card tables, etc., made in the days when good work was the rule and not the exception, nearly always pay for restoring.

The tools for furniture repairing are the same as are used by cabinet-makers and upholsterers for new work. The most necessary are: a jack plane, smoothing plane, hand saw, tenon saw, ¼-in., ½-in., and ¾-in. chisels, a brace and ⅜-in., ½-in., and ¾-in. dowel bits, about three sizes of bits for screws, three or four bradawls, a pair of pincers, pair of pliers, a couple of hammers, a mallet, screw-driver, 2-ft. rule, and a steel scraper.

The glue-pot should be of a size according to the amount of work to be done. For all-round purposes a medium size is best, but when much veneering has to be done a large pot is necessary. For household purposes a small-size pot is best, as it can be heated up quickly. It is also useful to the professional repairer for taking out to houses. Many amateurs stick too long to the makeshift glue-pot of the jam-jar and saucepan description, which is all very well in an emergency; but it is much better to spend a shilling or so for the right thing, which is far handier to use. There are plenty of good makes of glue—English, Scotch and French—at about 6d. per lb. It is sold in cakes of from ⅛ in. to ⅜ in. in thickness, of a clear amber colour, and while it should be brittle to break it should yet possess a certain toughness. It should not be too susceptible to climatic changes, which can be noticed by the cakes getting soft in damp weather and by cracking in hot weather. Thin cakes are preferable, because they are more easily broken up and more quickly dissolved. To "make off" a pot of glue a couple of cakes should be wrapped in paper and smashed up with the mallet. The broken glue should nearly fill the pot, and then be covered with water, the well also being filled about three-quarters full. It is then boiled until dissolved. Sometimes glue takes several hours to dissolve, but it should be stirred with a stick when the water starts to boil, and in a little while the broken glue will be found to have formed in a lump on the stick. By stirring round and round, and rubbing the lump on the sides of the pot, it will diminish, and the glue be ready for use in about half an hour. A newly made pot of hot glue should be very like golden syrup with a thin skin on the top. Cheap glue often has a very offensive odour. A stick and brush are kept continually in the glue for applyng it, and these should be of a convenient shape and size. There should not be more than about 2 in. of the handle above the edge of the pot. Fig. 1 shows a glue brush, etc. A is a flat brush, about 1 in. wide, which is very suitable. A handy shape for a glue stick for gluing mortice holes, loose joints, etc., is shown at B. C shows a round stick, which is simply a piece of dowel made thinner at one end; it is useful for putting glue in dowel holes, holes for spindles, etc.

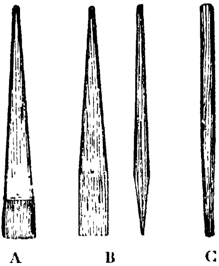


Fig. 1.—Glue Brush and Glue Sticks

Understanding and intelligence are necessary in using glue, and unless these are exercised, gluing is best left alone; also the less nails used the better. Jagged fractures are quite common, but with proper treatment can be made almost perfect, especially if done without much delay. Many housekeepers know this, and are careful to save any small, loose pieces. In a case of this sort the parts should be examined and tried together to see that they fit neatly. The glue should be quite hot and rather thin, but not watery; a little rubbed between the finger and thumb should slip smoothly and easily; if it is too thin it will feel watery and needs to be boiled and stirred for a while; if too thick, it will be difficult to rub the finger and thumb together, and may be thinned with boiling water and well stirred up. The jagged surfaces should be made warm, the glue amply applied to both pieces, and the two pressed together quickly and accurately to squeeze out the surplus. The object is to knit the wood fibres together, and the joint should be almost invisible. It is often not possible to use a cramp, so the joint must be held together in a dry, warm place for a little while, then left to set. As a rule, the surplus glue is not cleaned off at the time for fear of disturbing the joint but in some cases, when it will stand it, it can be washed off with a rag and hot water. When partly set, it can be peeled off without much trouble, and when set hard it will shell off if the wood is polished; otherwise it has to be removed with a sharp chisel or scraper.

The joint may be made more reliable by further securing with panel pins. These are fine wire nails with small heads. A well-sharpened bradawl should be used to pierce hard wood before driving these pins, and the heads being small, they are easily punched a little below the surface and the holes filled up. Panel pins are extremely useful for all kinds of repairs; they are to be had in sizes from fine ½-in. to 3 in. long. Some fractures are of such a nature that screws are preferable to panel pins. These also should be sunk and the holes, if large, filled with wood, well matched in with the grain.

Small holes or other defects can be filled with cement very effectually. This is done by melting beeswax (cut into flakes) and crushed resin in a large tablespoon, adding a little dry pigment to colour it to match the wood; use umber for walnut, venetian red for mahogany, yellow ochre for light woods, and lamp-black for ebonised work. The cement melts readily, and is dropped into the defect from the point of a small stick. It sets quickly and is easily trimmed off with a sharp chisel and glasspaper. When the colour is well matched it is almost impossible to notice it. If the cement is too brittle, add more wax; if too soft, more resin; but use only just enough pigment to get the right colour.

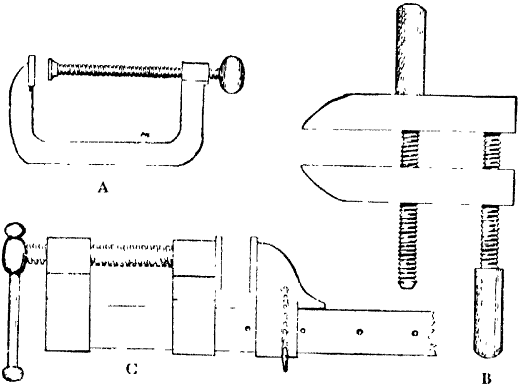


Fig. 2.—G-cramp, Handscrew, and Framing Cramp

Ordinary putty, coloured by adding pigment, is useful for shallow defects where the cement will not take, but for large defects it is apt to sink a little.

A few G-cramps and hand-screws, as shown by A and B

(Fig. 2) are useful for repair work; also a framing cramp, as shown by C, to take about 3 ft. 6 in.

For the upholstery part of furniture repairing but few tools are required. A (Fig. 3) shows the regular upholsterer's tacking hammer; and B another pattern of head called a "cabriolet," for tacking in awkward places such as occur in cabriole chairs, etc. A (Fig. 4) shows a 9-in. stitching needle, used for forming the "roll" on firm-stuffed edges of good class upholstery work. A buttoning needle is shown at B. The packing needle shown at C is useful for stitching springs, canvas, etc. Circular needles, as shown by D, are occasionally required, and are to be had in different sizes; they are often used by the upholsterer for stitching on the covers, cording seams, etc. Fig. 5 shows a "regulator," which is used for regulating the stuffing when it is found to be uneven after the scrim, canvas, or calico cover is put on; or for working it to the edges for stitching.

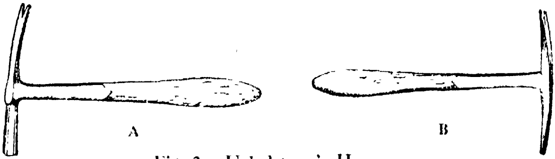


Fig. 3.—Upholsterer's Hammers

In workshop practice a pair of trestles, about 30 in. high, are much used for raising couches and chairs to a convenient height for working on. A board, about 6 ft by 3 ft., to rest on the trestles, makes a good table for cutting covers, repairing mattresses, etc.

There is a great deal of difference in the quality, in both material and workmanship, of upholstered furniture.

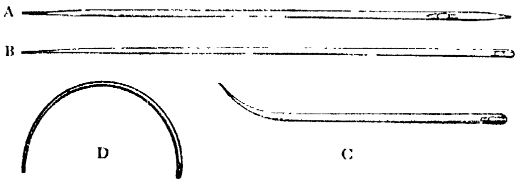


Fig. 4.—Four Kinds of Upholsterer's Needles

The very cheapest suites are stuffed with the chippings from woodworking machines and sweepings from the factories, with some rag flock over it before the final cover. Instead of the firm, stitched edge there is a rib of wood with twisted fibre on. The very poorest canvas is put over the springs, and German web and the commonest black lining used for the bottom. On the other hand, there are other suites stuffed with all curled hair, from 6d. to 3s. per lb.; best spring canvas, scrim, calico, wadding, black linen, and English web are used. Two or three stuffings are made, and firm edges with three or four rows of stitching. Labour is unstinted in this case, for a practical man might take three or four weeks to complete such a suite.

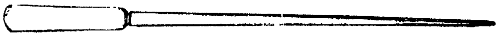


Fig. 5. Regulator

Between these extremes there are many grades, where different qualities of flock are used, or flock and hair vegetable or wood fibre with flock or hair, etc. As a rule, it is the practice to repair such work as it had been done originally, unless it is desired otherwise. The same stuffing generally goes back, but the canvas, web, etc., have to be renewed, and sometimes more stuffing has to be added.

The various kinds of stuffing materials mostly used are white cotton flock, rag flock, grey, brown and black wool flock, sea weed (called "alva"), wood fibre, vegetable fibre, and hair. The white cotton flock is the cheapest, and for cleanliness is much to be preferred to rag flock which has been made from any old rags torn into threads. The cotton flock, however, is heavy, and has very little spring Wood fibre, as used for packing purposes is a very cheap material, and is often used even for middle-class furniture for the "first stuffing," as it makes fairly good, firm stitched edges. It may be expected to last from five to ten years, but after that it generally gets very dry, and crumbles to dust. It has the advantage of being very clean, and is recommended for use with cotton flock for good, cheap work. Rag flock is softer and lighter than cotton, and when clean it makes good stuffing for moderately cheap work; but some of it is very unwholesome. “Alva,” which is a dried seaweed, is mostly used as a first stuffing to rag flock; under certain conditions it has a tendency to breed grubs. Wool flock is sometimes used for good furniture, but being very warm it is mostly used for mattresses. Vegetable fibre has an appearance almost like curled hair. It is used for "first stuffing" good class work, with hair for the second stuffing. The best class of furniture is stuffed with all hair. The best quality is clean, soft, and springy, the white being more expensive than the grey or black.

With old furniture the quality of the upholstery work is generally good, in keeping with the frames and outer covers, and is mostly hair. Old chairs in morocco skins can be depended upon, as a rule, to contain hair of good quality.

Upholsterer's canvas is 2 yd. wide, known as "spring" canvas and "scrim," in various qualities. It is termed "spring" canvas because it is chiefly used for covering the springs. The "scrim" is a light, open canvas used for covering the stuffing and for the stitched edges. Strong, thick twine, used for lashing the springs, is known as "spring" twine. Strong, thin twine, used for stitching, is known as "stitching" twine.

For cheap work, German web is recommended. It is poor stuff to look at, but lasts well when properly put on. It is sold by the piece or by the gross of yards. A piece contains 36 yd., so a gross is four pieces. English web is sold in the same way, but the piece contains 18 yd. only, eight pieces to the gross; and it is in different widths, known by a number, No. 10 and No. 12 being generally used. Tacks are sold by the packet, or bundles of ten packets, $\frac{3}{8}$ in., $\frac{1}{2}$ in., and "webbing" tacks, which are $\frac{5}{8}$ in., with large heads. Fine black tacks, known as "gimp pins," sold by the pound, are used for fixing gimp, but small quantities can be had by the pennyworth; and they can also be had white, green or red. Wadding is sold by the yard or dozen yards, or in sheets.

Of covering materials, leather cloth is the cheapest, the cleanest, and lasts well, especially the better qualities. It may be had in several shades and qualities in 42-in., 45-in., and 48-in. widths. Rexine, which is a better imitation leather, is often used instead of skins, which are expensive. Morocco makes very nice covers, but the limited size is a disadvantage for large, plain surfaces. Banding, to match, for covering the tacked edges, can be had by the piece of 36 yd., buttons by the gross packet, and studs for fixing the banding by the gross or box of 1,000.

Tapestries are in widths up to 50 in., and make nice, inexpensive covers; but they get soiled and faded rather soon. In cutting the covers, particular attention must be paid to getting the design uniform. Velvets are only 24 in. wide, but they can be seamed. The seams can be arranged to be almost unnoticeable, or, as in the case of divan chairs, to be on the edges and covered by cord. Velvets are in many qualities, colours and patterns, with buttons and gimps to match. There are also other thinner makes of velvet in widths up to 50 in., mercerised silks, silk tapestries, etc., suitable for drawing-room furniture.

Re-upholstery in new covers often causes the frames to look very shabby, and unless they are improved the work is at a disadvantage. It is as well to know this and attend to it before the covers are put on, or, better still, while they are stripped of the stuffing. If the frames are dirty or show signs of grease they should be washed with hot water and soda, and then with pure water. Any dents can be swelled up level with the hot water, and when the frames are dry they may be smoothed with fine glass-paper and polished. A well-polished furniture suite may be in use fifty years, and if it has not been abused might not require repolishing. Others may simply want a little washing with pure warm water and rubbing up with a soft cloth, using the merest trace of a good furniture cream; or they may need a slight French polishing with the "rubber."

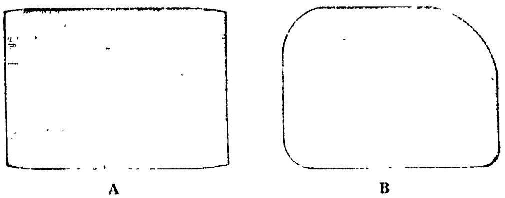


Fig. 6.—Scrapers

Very often, however, furniture that has been much neglected requires thoroughly scraping and cleaning up before it can be re-polished; but the result is always worth the trouble, especially with antiques. A and B (Fig. 6) show two shapes of steel scrapers for removing old polish and varnish from flat surfaces, mouldings, etc. For glass-papering mouldings, etc., it is an advantage to keep a number of rubber blocks 2 or 3 in. in length and shaped as shown by Fig. 7. For flat surfaces a block 4 in. by 3 in. by 1 in., with a piece of thick cork linoleum glued on, is very useful (see Fig. 8).

The polishing requisites are: Ordinary brown french polish; white polish, for inlaid work and light woods; wax polish, for old oak; grain filler, for mahogany, walnut, and light wood; aniline stains in powder, bismarck, walnut and black; linseed oil, methylated spirits, and turpentine; dry pigments (venetian red, umber, sienna, yellow ochre, and whitening); gums, resin, and benzoin; two or three polish brushes, as shown by Fig. 9; and some wadding and polishing rags and pumice powder. These are required in workshop practice; but the home worker may get just what he requires at the time. However, they are all very inexpensive, and a small quantity will do a lot of work. With these conveniences at hand almost anything can be

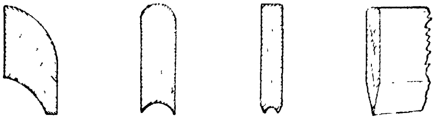


Fig. 7.—Rubber Blocks used in Glass-papering Mouldings

managed, and they are always in demand, especially for touching up small repairs. The wax polish is beeswax dissolved in turpentine, and may be kept in an air-tight paint or syrup tin.

The grain fillers are a stiff paste made with whitening, turpentine and a little linseed oil, coloured with rose pink for mahogany, umber for walnut, ochre for light woods. These should be kept in air-tight tins or jars ready for instant use. Three wide-neck bottles containing polish stained with the aniline powders (red, brown and black) are extremely useful to dip the brush into. When small repairs are done which have disturbed the polished surface, or any broken part has been replaced with new wood, the work should be rubbed over with the linseed oil rag, which is kept in a tin always ready; then some grain filler is rubbed in. After this is cleaned off, if the work is not of the right colour, it is stained with the polish. The

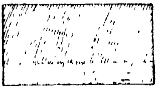


Fig. 8. Flat Glass-papering Block

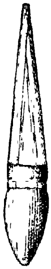


Fig. 9. Polish Brush

brushes soon get hard if left exposed, and take some time to soften by soaking in spirits, but when kept in a suitable tin they are always ready for use. The same applies to polish "rubbers."

The resin and benzoin are for crushing and dissolving in polish to make varnish. The pigments are for mixing in thin glue size for colouring deal backs, bottoms, etc., of carcass work, and for any soft wood to be polished to imitate the better woods. The wadding and rags are for making polishing "rubbers," and the pumice powder, for grinding down polished surfaces for polishing to a finer finish.

CHAPTER II

Common Kitchen and Parlour Chairs

A JOB that frequently comes to the furniture repairer is the renovation, perhaps the entire rebuilding, of common chairs. By "common" is meant that class of chair that is sold retail for a very few shillings.

Repairing Kitchen Chairs.—Figs. 10 and 11 illustrate two kitchen chairs (one a rocking chair) in a state to which such pieces of furniture are not infrequently reduced. When they get into this state, after being in use a year or two, they are often neglected, because, being cheap, it is thought better to buy new ones than have them repaired. This, however, is a mistake, as most likely very cheap new chairs will

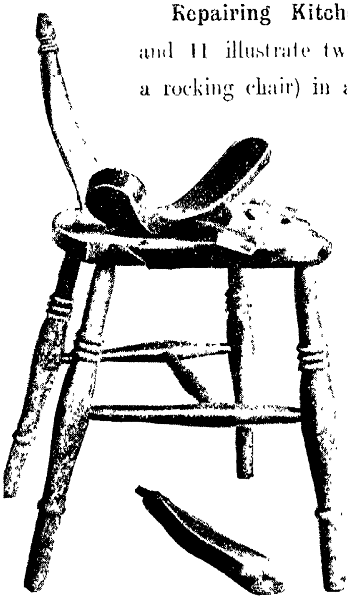


Fig. 10.—Broken Kitchen Chair

soon be in the same plight; whereas the old ones, after having been properly repaired, should last for an indefinite period. The reason is that when the chairs are manufactured the wood is seldom thoroughly seasoned, and shrinks when it gets into warm rooms, the chairs thus becoming loose at the joints. Another cause is insufficiency of glue, and the haste with which they are knocked together for cheap production.

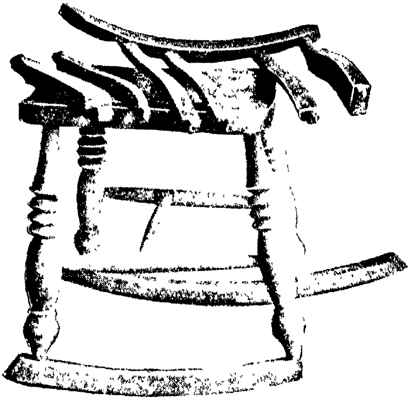


Fig. 11.—Broken Rocking Chair

As these two chairs will have to be re-varnished, they are first washed clean with soda and water, and finished with pure water. On examining the rocking chair, every joint is found to be loose; but the only actual break is in one of the rockers at the back leg, as shown in Fig. 11. To remedy this it is best to obtain a new rocker from the chair factory for a few pence when possible, as it is wasteful and laborious to cut one from a birch board with a bow-saw, or send it to a sawmill to be cut on a band-saw.

The method of joining a piece on to the old rocker, adopted in this case, will suit many workers; it is shown by A and B (Fig. 12). It is a halved joint, and a little critical observation will show that when well fitted, glued, and secured with a screw from the inner side it is quite strong and reliable. This having been done, put aside to set.

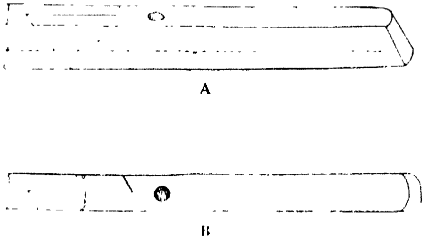


Fig. 12.—Joint in Chair Rocker

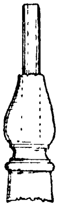


Fig. 13. - Pin in Back Upright of Chair

All the joints of the legs and spindles are carefully knocked apart with a mallet, and put together again with hot strong glue, the inside of the holes being glued as well as the ends of the pieces. Some joints that are too loose should be secured with a screw or a fine sprig. The same is done with the back joints, after seeing that they are cleaned out free from old glue; but the joints of the outside uprights to the seat may be so loose that it is best to wedge them, as shown at A (Fig. 14).

The other chair is also loose in all the joints, the actual breaks being the top pin end of the right-hand upright broken off in the curved rail, and a piece missing out of the seat where the hole is cut for the left-hand upright (see A, Fig. 15). The broken pin is replaced with a dowel as shown by Fig. 13, care being taken when boring to keep central and straight, both with the turned end and the broken pin in the curved rail. All the loose joints are then re-glued and the back fixed on, the left-hand upright being secured with a screw as shown at B (Fig. 14). The broken part is then made good by fitting and gluing two pieces (see B, Fig. 15), which, when set, are trimmed off and secured with a couple of fine sprigs (see C, Fig. 14).

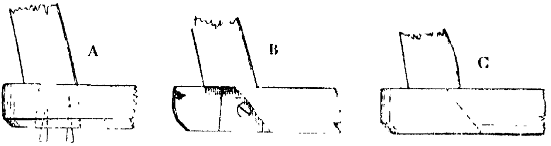


Fig. 14. Parts of Back Uprights and Chair Seat

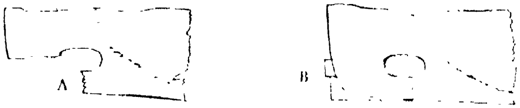


Fig 15. Portion of Chair Seat

The chairs are next smoothed down with glass-paper, brushed free from dust, and stained with a small quantity of aniline walnut dye dissolved in methylated spirit. Then they are rubbed over with linseed oil, which is left o dry in. Later they are given a coat of brown hard pirit varnish, which is finally finished off with a rubber of french polish; and they are then quite as good as new chairs (see Figs. 16 and 17).

Repairing Parlour Chairs.—Fig. 18 shows a chair which was submitted to be repaired, upholstered and polished. The first thing is to strip off the upholstering. An old packing-case about

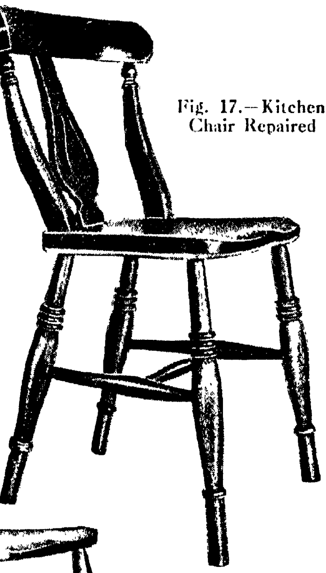


Fig. 17.—Kitchen Chair Repaired

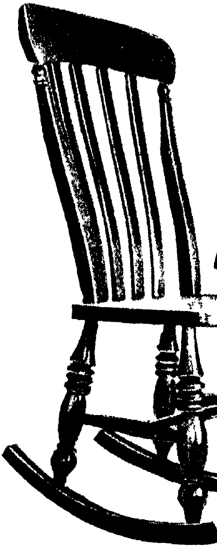


Fig. 16. —Rocking Chair Repaired

3 ft. square and 1 ft. 4 in. high when laid on the floor should be kept for this purpose. A thick cover of old felt should be put on the packing-case, and the chair laid on it, to be stripped with a stripping chisel (an old screwdriver or wood-chisel will do) and mallet in the manner shown by Fig. 19.

Next repair the top rail, which is broken off just above the dowel (see Fig. 20). Had the dowel been long enough to go beyond the short grain of the wood, this might not have happened. Therefore the old dowel should be cut off, and bored out of the upright with a bit or gimlet smaller in size than the dowel, so as not to alter the hole, and picked out with a small gouge or chisel. A longer dowel should then be fitted in, and the hole in the rail deepened to match it. The broken-off piece of rail should be fixed on accurately with a 2-in. screw, as shown in Fig. 21. When it fits quite close it should be unscrewed again, and the broken surfaces made warm; then hot and rather

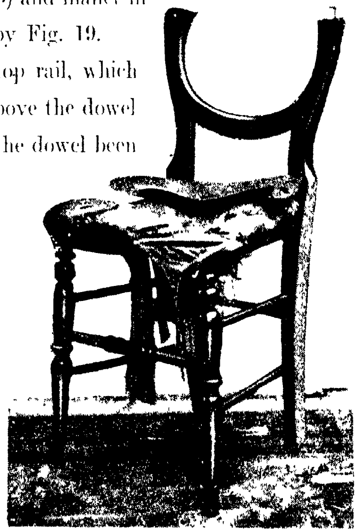


Fig. 18. Parlour Chair to be Repaired

thin glue is applied, and the parts are screwed together quickly, the work being done in a warm place. Glue should be put in the dowel holes, and on the dowels and joint surfaces, and the rail knocked on with a mallet. Two pieces of strong string, four pads of folded paper, and two short pieces of wood should be at hand for cramping up the joints in the manner shown in Fig. 22. Fig. 23 is a diagram marked from the chair, showing the finished joint

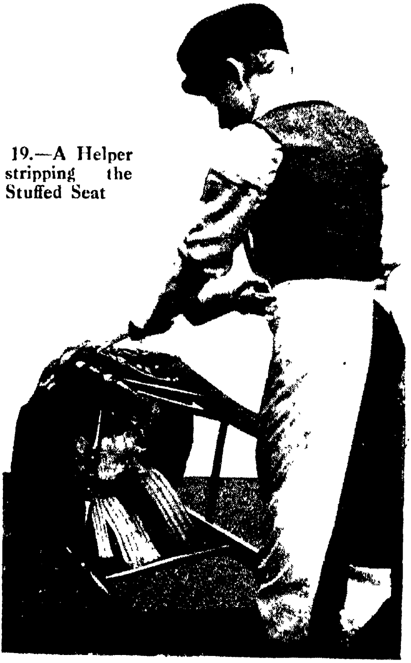


Fig. 19.—A Helper stripping the Stuffed Seat

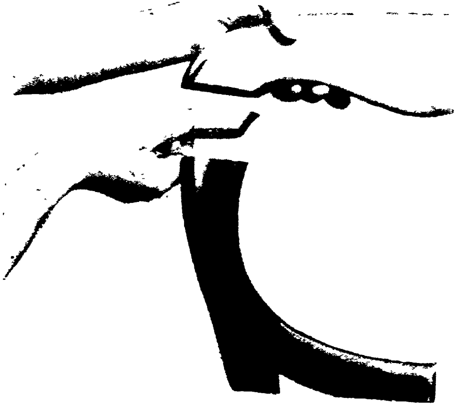


Fig. 20.—Broken Top Rail of Parlour Chair

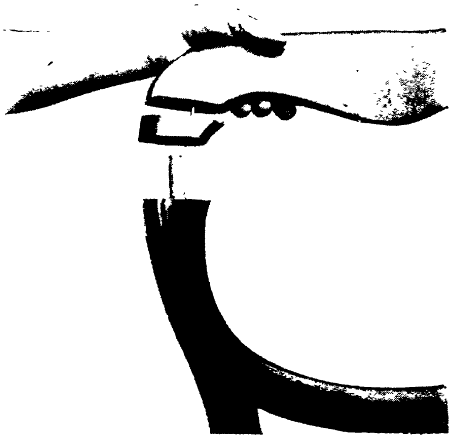


Fig. 21.—Repairing Rail with Screw and Dowel

A simple and quick method of webbing is shown in Fig. 22. German web, which is very much cheaper than English, is used, and wears fairly well. Webbing nearly always breaks first where there is pressure on the inner edge of the wood frame; but when the sharp corner is rasped off, it lasts considerably longer. The webbing should be begun at one of the back uprights. Double it over at the end about 1 in., and fix with three ⅝-in. webbing tacks; then stretch as tight as possible with a web strainer or block, fix with three tacks whilst being held (almost directly over the front leg), cut off, double over, and drive in two more tacks The quickest way to cut off the web is to slash it off with a sharp knife.

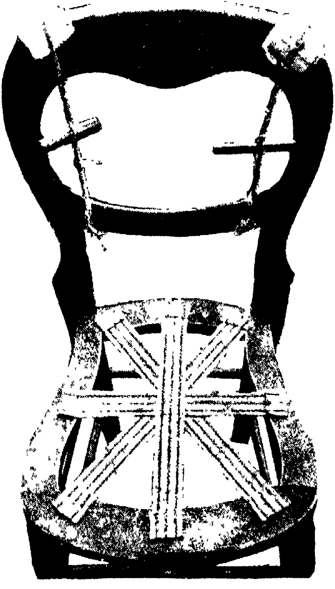


Fig. 22.—Cramping Rail Joints

The webbing should next be covered over with canvas, doubled on the edges and fixed with ½-in. tacks, being stretched as tight as possible. Tacks can then be put round the edge in twos, about 4 in. apart, and a string looped from one to the other, as shown in Fig. 24. Fig. 25 shows how to do this, gauging the slackness of the loops with the fingers and driving home the tacks.

Fig. 23

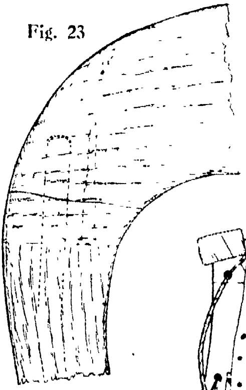


Fig. 23.—Repaired Top Rail

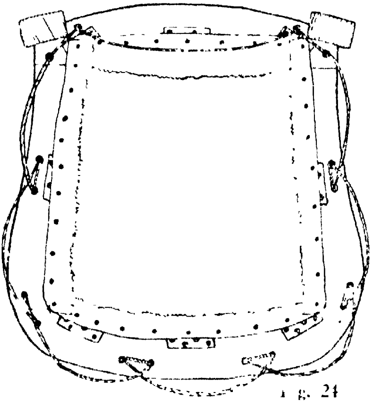


Fig. 24

Fig. 24.—Chair Seat ready for First Stuffing

The stuffing which came out of the seat is laid on the floor and beaten with the edge of a wood lath to thrash out the dust and make it soft. The stuffing of "alva" (a cheap stuffing of dried seaweed) should be packed firmly under the strings, as shown in Fig. 26; then the flock stuffing can be piled on, and pressed down with the hands. It will then be as shown in Fig. 27. A covering of leather cloth 20 in. square is required, which should be first tacked over, as shown in Fig. 28, fixed with three tacks partly driven at each side. The back corners should be cut to fit the uprights, as shown, then the cover can be pulled down as tight as possible, smacking the seat with the hand and pressing down the stuffing to get it quite firm. The seat will now seem rather hard; but after being in use a short time it will get softer, owing to the stretching of the leather-cloth cover. Anyone who is not sure of success

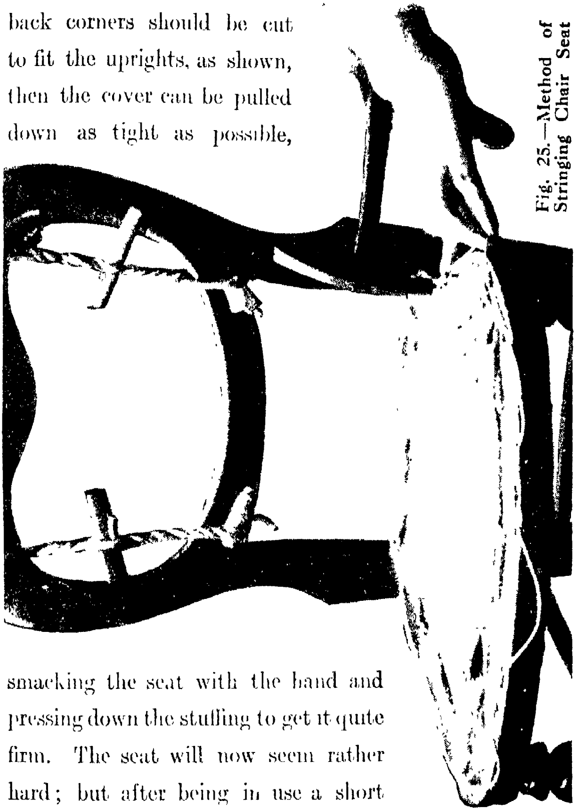


Fig. 25.—Method of Stringing Chair Seat

should put on a cover of canvas or calico before the final cover, to ensure getting the seat the right shape. It will be the better for it, and the only reason for not doing it is to save a little stuff and time. For the sake of cheap production the practical workman has to learn to make the one cover do.

The cramping strings should now be removed, and

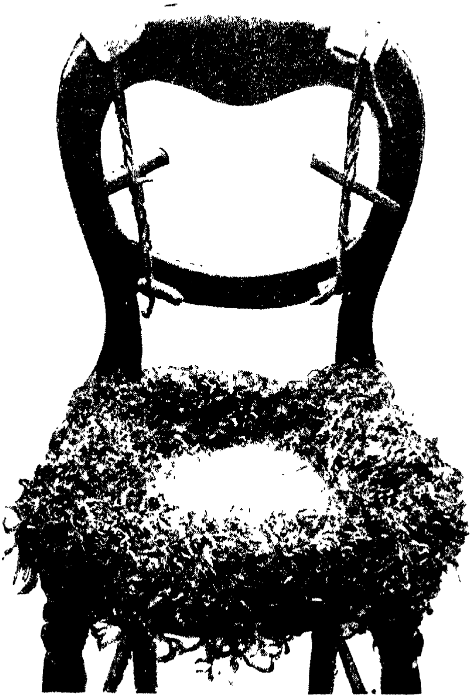
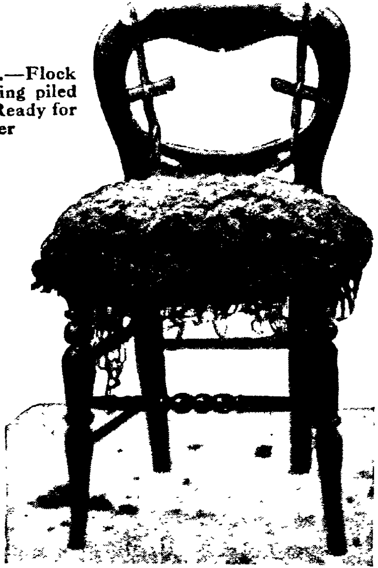


Fig 26.—Alva Stuffing packed under String.

Fig. 27.—Flock Stuffing piled on Ready for Cover



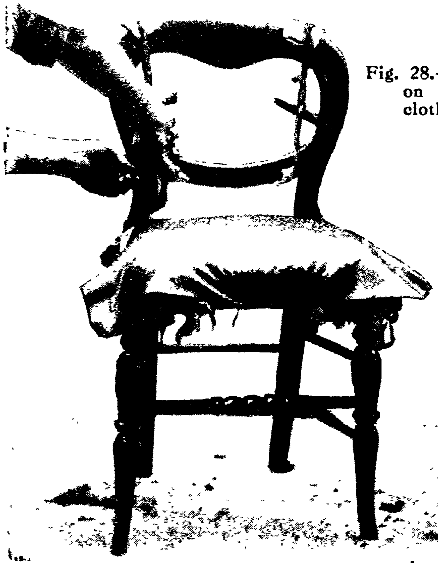


Fig. 28.—Putting on Leather-cloth Cover

the repaired joints and any roughness smoothed down with fine glasspaper. The wood being of birch stained walnut colour will show white where the stain has worn off. This should be touched up with a little aniline walnut stain in methylated spirit. A coat of spirit varnish should then be given, applied with a camel-hair brush in a warm room. When dry it can be finished off by stroking over with a rubber of french polish.

The seat is finished with leather-cloth banding and studs, which completes the chair, as shown by Fig. 29.

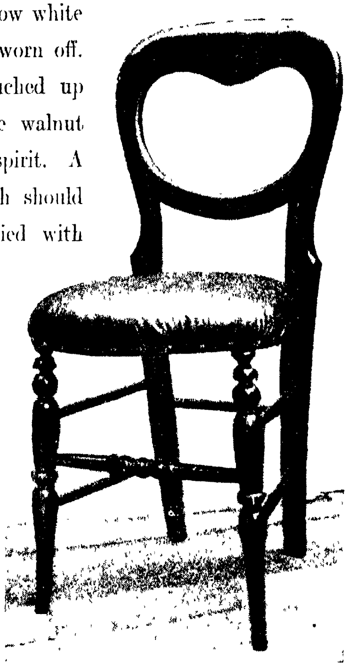


Fig. 29.—Parlour Chair Repaired and Finished

In a repairing shop a job of this kind would cost almost as much as a new chair, unless a quantity were done together; but when properly done the chairs will prove better in appearance and more serviceable than when new.

CHAPTER III

Dining Chairs

A FAIR specimen of a repair job which frequently occurs and its progress through the hands of a practical workman are illustrated by the series of photographs reproduced

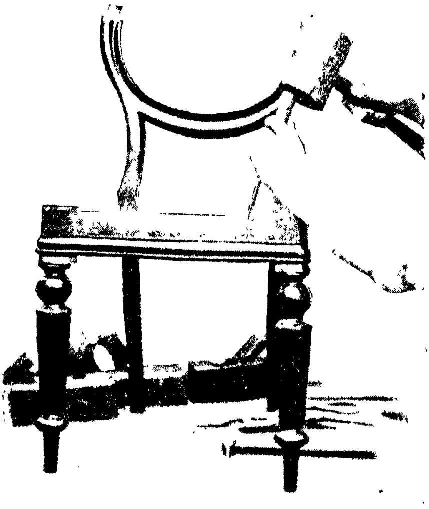


Fig. 30.—Marking Chair Braces and Rails with Chisel

in this chapter. The chair shown is a good one, which has been in use about thirty years, and came to hand with the leather cover in a ragged condition, the webbing hanging down under the seat, the frame being loose in two joints, and the top back rail off.

The first thing to do was to strip off the upholstery with a mallet and chisel. The braces were all loose; but before removing they were marked, so as to know their places without any trouble. This is best done with a chisel (see Fig 30), making a dent across the joint of the brace and rail at the same time, marking them */*, *//*, *///*, *////*. They can then be knocked out, and the loose joints separated. The tenons of the rails will be found to be $\frac{1}{8}$ in. too narrow for the mortice holes in the legs, so

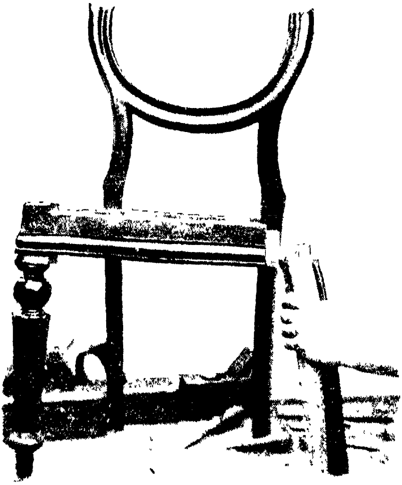


Fig. 31.—Loose Chair Joints taken Apart

they must be "blind wedged." This is done by making a saw cut in the tenons ¼ in. from each corner (see Fig. 31), in which are inserted hardwood wedges. The wedges must be no longer than the depth of the mortice holes, the same width at the thickness of the tenons, and taper from ⅛ in. to a point. They should not be driven home, but left standing out about ⅜ in. (see Fig. 32).

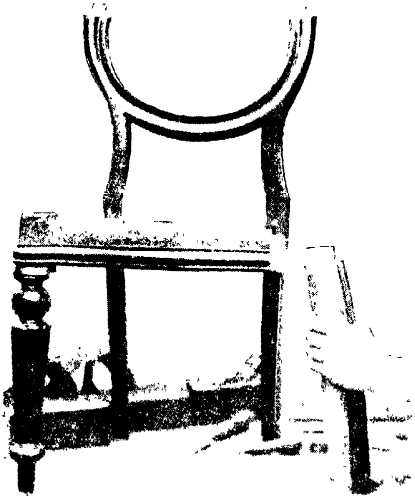


Fig. 32.—"Blind Wedging" of Mortice-and tenon Joints

In this position the joints are ready for gluing up, which is best done in a warm room. Good strong glue should be used, not very thick, and quite hot. It is also an advantage to heat the joints before applying the glue.

The cramps should be ready at hand, but if these are not available, the method of cramping with strings and winders, as shown, may be adopted. This method has many advantages, and is often used where iron cramps are unsuitable. The glue must be applied first in the mortice holes, then to the tenons and shoulders, and the work put together quickly, being knocked up with the mallet. The cramping strings should have a knot at one end, and be put round the legs above and below the joints, making a slip knot, and drawing tight, the free end of the string being slipped in against the legs. Then they are twisted

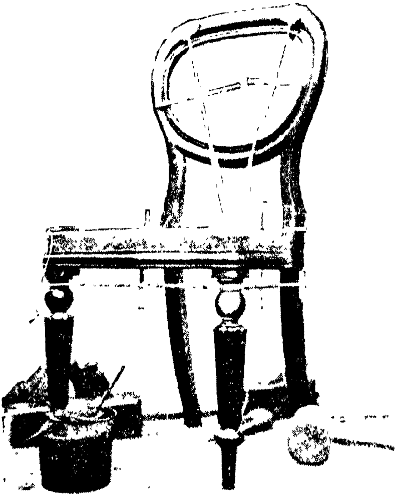


Fig. 33.—Joints Cramped up with Strings and Winders

with the pieces of dowel wood to pull the joints close, giving a few knocks with the mallet to help them.

The method of cramping the top rail joints is clearly shown in Fig. 33. These joints have probably come undone through insufficient glue being applied in the original construction, so they only require re-gluing both inside the holes and on the dowels. In this connection particular care must be taken not to use too much or too thick glue, as the dowels on entering the holes can close them up air-tight, the compressed air keeping the joints from coming up close. It is a good plan to make a slight **V**-groove with the corner of a sharp chisel along the dowels to allow the air to escape.

When the dowels are broken and require renewing, the old ones should first be bored down the centre with a small bit. Then they may be broken up and picked out with a bradawl. The use of the same holes ensures the joint fitting correctly, which is not so when the old dowels are bored out direct with a dowel bit.

In Fig. 33 it will be noticed that the cramping strings are in front of the cross back rail, so as to pull the joints more direct. The chair frame must be left in a dry place to set. Glued-up work should always have plenty of time to set. Some workmen judge by the surplus glue showing outside the joints, but this is a mistake. It must be understood that the air cannot easily penetrate to the inside of a mortice-and-tenon or dowelled joint.

In cramping with strings it may be stated that they must be parallel, or the frame will be twisted. This is generally noticeable by the chair not standing level, and must be put right at once by regulating the strings and stringing the frame. When there is not a perfectly level board or slab to ascertain that a chair is level, turn it upside down and lay two straight pieces of wood on the legs. When quite parallel the chair is level.

The braces should be glued in at once, to ensure the squareness of the seat frame, and when not sufficiently tight fitting they should also be screwed. It would not do to take off the strings and web the seat, as the straining of the web might open the joints, so the upholstering and finishing must be left until the glue is quite hard.

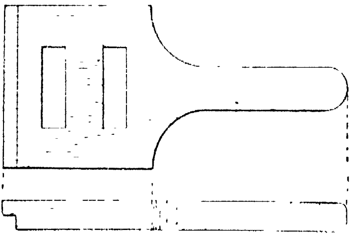


Fig. 34. Web Strainer

The glued joints of the chair being thoroughly set, the cramping strings are removed and the surplus glue trimmed off. In view of the polishing, it is then washed with hot water containing a little soda, using a small stiff brush to remove all dirt, and finishing off with clean water without soda.

The chair is now ready for re-webbing. No. 12 English eb is generally used for this class of work, put on with -in. webbing tacks. The size of the seat is 1 ft. 6½ in. by 1 ft. 5 in., therefore six webs, three each way, will be required. To begin, the end of the web is doubled over about 1 in. and fixed on the centre of the back rail with four tacks, which should be inserted rather irregularly, so as not to be all in line with the grain of the wood, which is liable to split.

For stretching the web, a tool called a "web strainer" (see Fig. 34) is used by some upholsterers; but this is often discarded for the much simpler method here explained, which is considered quicker. Instead of the strainer, a block of wood about 5 in. by 3 in. by 1 in. is used in the manner shown in Fig. 35. The strained web is first fixed with three tacks whilst being held, then cut off, allowing about 1 in. to double over and two more tacks inserted. This is the correct way to get used to, and better than driving in tacks haphazard.

The two other webs are put on, one at each side, then the three across, as shown in Fig. 36. It is next covered with a piece of strong canvas, stretched tight, doubled over on the edges, and fixed with ½-in. tacks (see Fig. 37).

In many cases (as in the present) the "first stuffing" can be used again as it is. After being laid on the ground and the dust beaten out with a stick, it is tacked in place again as before, and a few "tie" stitches put through to fix it to the webbed bottom. Some stitching twine is then

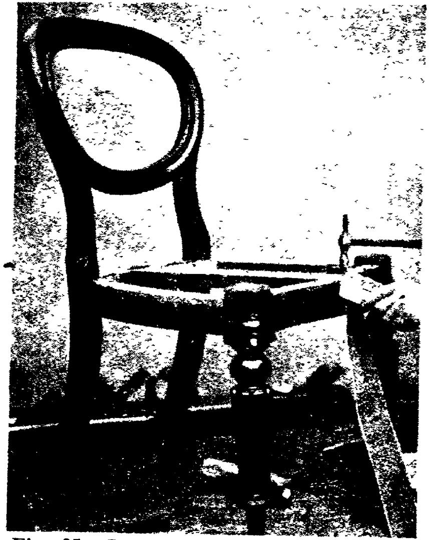


Fig. 35.—Straining and Tacking Web on Chair Seat

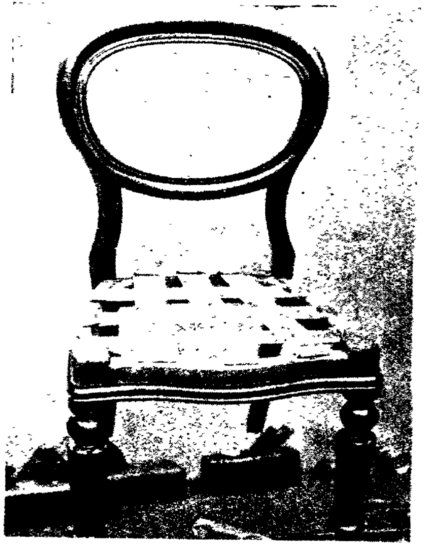


Fig. 36.—Chair with Webbed Seat

put from corner to corner of the seat, catching the stuffing midway in the form of large loose stitches (see Fig. 38).

The top stuffing is composed of hair and a little cotton flock. This is laid on the ground and beaten with the edge of a stick, about 3 ft. 6 in. long by 2 in. wide by ½ in. thick. The object is to beat out all the dust and soften the hair, so that very little teasing with the fingers will be required.

In beginning to "second stuff," some of the hair is first packed under the strings all round; then the flocks are put inside and the remainder of the hair is evenly distributed over. The stuffing must be packed on with an idea to the finished shape of the seat, which should slope gradually from the front to the back, the crown of the seat being about the centre, a little nearer the front. It is covered with a piece of calico first tacked loosely over, the tacks being only partly driven. The stuffing is then pressed down with the hands, the tacks being drawn out a few at a time, and the cover pulled down to the correct shape and re-tacked, as shown in Fig. 39. It should now be examined to see that it is of equal firmness all over, regulating by probing through the calico cover with the long needle to work the stuffing about as required.

A sheet of wadding is next laid over, and the final covering put on, in this case best quality leather cloth.

The next proceeding is to polish the chair frame. It

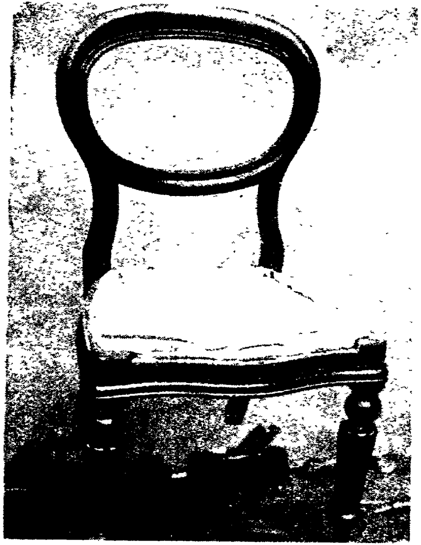


Fig. 37.—Canvas Stretched and Tacked over Webbing

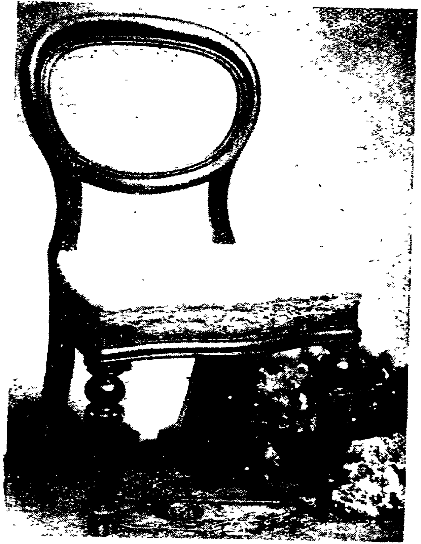


Fig. 38.—Chair after First Stuffing, pre-

is first examined, and any roughness or dents smoothed ith No. 2 and No. 1 glasspaper. Parts where the bare wood shows should be rubbed over with a rag dipped in raw linseed oil; then the chair is well dusted over and french-polished. To do this a polishing "rubber" is made by folding a bit of wadding in a cover of old calico to form a pad about the size of an egg, pointed at one end. The polish is poured into the wadding to saturate, and the cover drawn neatly over without wrinkles, to cause the polish to ooze evenly through with slight pressure of the fingers. The tip of the finger is dipped in linseed oil and rubbed over the surface of the "rubber," which is stroked over the back of the chair, once only, then moving on down the uprights, along the seat rails and round the egs. This is repeated until gradually a bright, smooth, hard finish is attained. The rubber is worked out fairly dry before re-charging with more polish, and as little oil as possible is used. A camel-hair brush is used for getting nto the nicks of the turning or moulding, care being taken to apply it not too wet. In using either brush or rubber, they should never be wet enough for the polish to run, and the work is best done in a warm room. It is dry as soon as finished, but should be allowed plenty of ime to harden before being handled.

The banding and studs are then put round the seat, which completes the chair, making it as good as new (see Fig. 40).

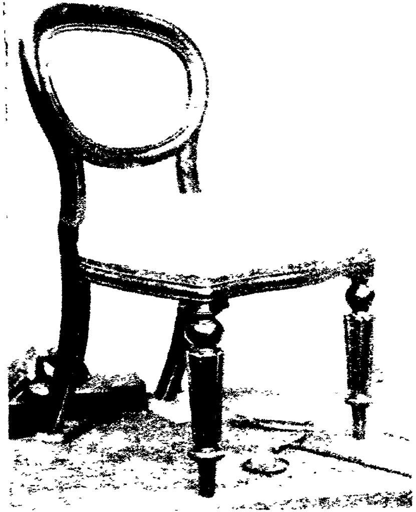


Fig. 39.—Chair with Seat Second Stuffed

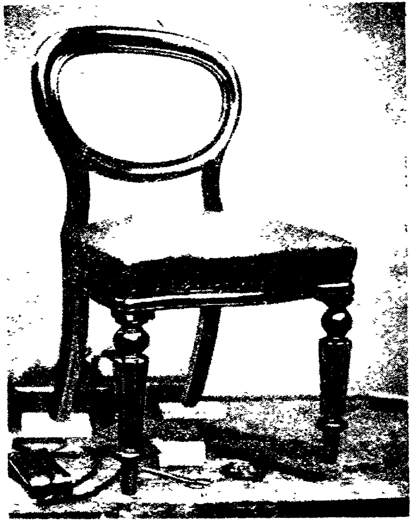


Fig. 40.—Dining Chair Repaired and Covered

Repairing Carved Oak Dining Chair.—One of a set of six repaired chairs is illustrated by Fig. 41. They were all broken through one of the back uprights at the obviously weakest point, namely, the thinnest part of the turning where the back is joined to the seat. The breaks were imilar to that shown in Fig. 42. Had the oak been hard and tough, this might not have happened; but it was of the dry, light, brittle kind.

At first it would seem a difficult thing to repair, and two of them had been done in a way with glue and nails and pieces of iron screwed on. This is a very common way of repairing chair-backs the result being far from strong, ugly, and depreciating the value of the chair.

The right way to do repairs of this kind is to cut through both the broken and the sound upright with a fine saw at A (Fig 42). The broken turning being a fresh break is found to fit together quite well, so both the jagged surfaces are warmed before the fire, and carefully glued together, using hot, strong, but rather thin glue. A few taps with the hammer will bring the joint close and almost invisible. It is left until next day to set, and then both the turnings and the squares are bored with a ¾-in. twist bit for dowelling see Fig. 43), care being taken to keep them exactly central and straight. The dowels are made of tough birch to fit well but not too tight, and are glued into the turnings, the holes as well as the dowels being glued. The back is then placed in position as shown by Fig. 44 for the final gluing.

A piece of paper is pinned over the velvet seat to save it from being splashed with glue whilst driving up the joints. Then the holes and dowels and the surfaces of the joints are glued, and brought together quickly, sending the

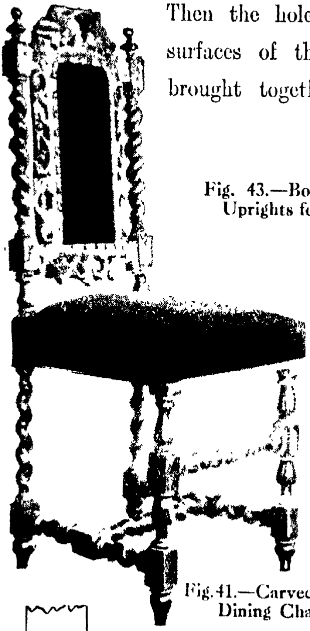


Fig. 41.—Carved Oak Dining Chair

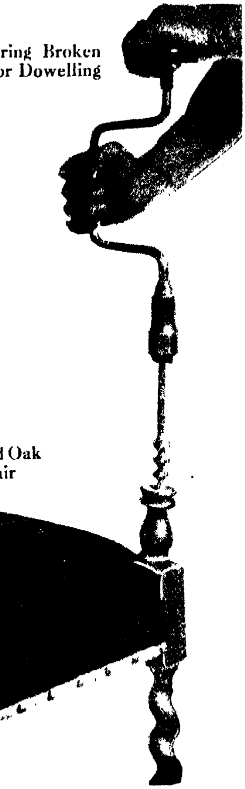


Fig. 43.—Boring Broken Uprights for Dowelling

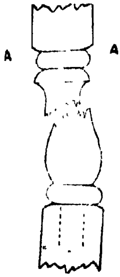


Fig. 42.—Break in Turned Upright

joints up close by tapping the top ends of the uprights with a mallet. The surplus glue is immediately washed off with a rag dipped in the hot water of the glue pot. Fig. 45 shows the construction of the joint.

Those chairs which had been previously "botched up" with thick glue, nails, and iron plates will require to have complete new turnings made, as the broken surfaces will not come together perfectly. Tough oak is chosen, and the dowel pins turned on to fit a hole bored in a piece of waste wood with the same twist bit. In gluing up these joints a slight niche or groove is cut along the dowel pins to allow the compressed air to escape; otherwise it is very difficult to send the joints close, and forcing often splits the wood.

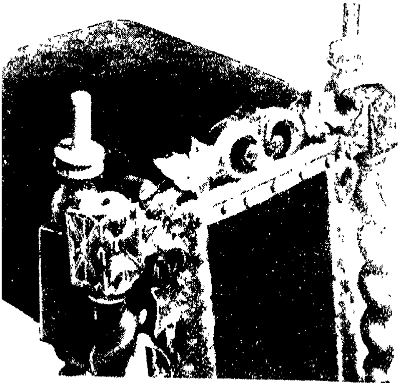


Fig. 44.—Chair Back in position for Gluing

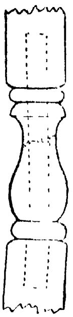


Fig. 45.—Dowelled Joint

CHAPTER IV

Making Loose Seats for Two Chairs

In workshop practice it sometimes happens that furniture passes through the same worker's hands a second time after a lapse of several years. Such cases give an opportunity of examining the work previously done, and to observe how it has stood through the years of usage.

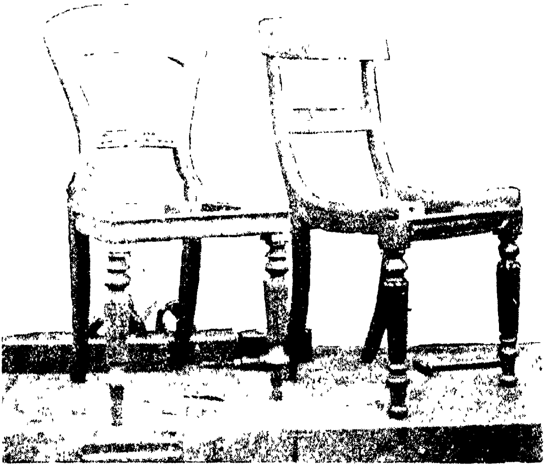


Fig. 46.—Chairs cleaned ready for Polishing

The two mahogany chair frames shown by Fig. 46 are "old acquaintances" of the writer. The first time they ame to hand they were loose in every joint, and the top back rail of both chairs was missing. They were first taken to pieces and well glued up, then braced and blocked as shown in Fig. 47. The corner braces of the right-hand chair are of hard birch, well fitted, glued, and screwed. The other chair is treated differently, and in describing this the object is to show that the expert worker does not tie himself to one method, but has several, which he uses as occasion demands, though chairs of the same design should be treated alike. As there are no braces in the chair, they are blocked as shown, which is a good method of strengthening. Each corner consists of a block 2½ in. long by 1 in. thick and the width of the rails. They are well fitted and glued in place; then the rounded corner blocks are prepared, the grain running vertically, and glued likewise.

To make a new top rail for one chair would mean that it must be cut from a block of mahogany measuring about 1 ft. 6½ in. long by 5½ in. wide by 3½ in. thick; but as there are two required the block would need to be 5 in. thick. Then it is not very easy to cut 5-in. mahogany, unless it can be done with a band-saw instead of with the bow saw; so, considering the stuff and time, it makes rather an expensive job. Fortunately, however, in a repairing shop there is generally an assortment of odd parts of broken furniture, and two old top rails were found which were reshaped and adapted as shown, the result being good, but not quite true to the original shape.

The chairs, after many years of hard service, are much knocked and scratched, very dirty, and with the upholstered loose seats missing. The first thing to do is to give them a good washing with strong soda and water, and then to remove all the old polish with a sharp scraper. The scratches and dents are cleaned out as much as possible, and those that are too deep filled up with putty coloured with venetian red; then the chairs are cleaned up with No. 2 and No. 1 glasspaper. Fig. 46 shows the chairs when this has been done. They are next wiped all over

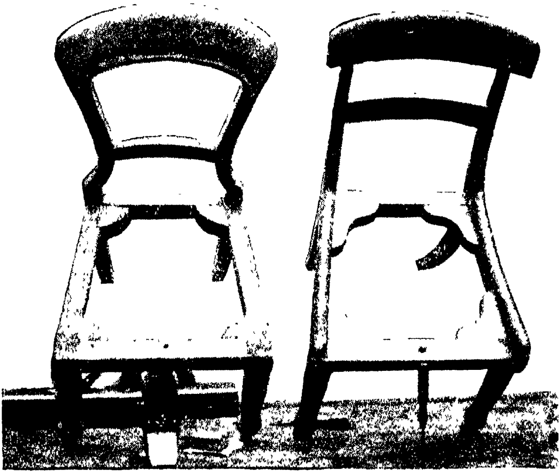


Fig. 47 — Chairs strengthened with Corner Blocks

with a soft rag dipped in raw linseed oil, and, allowing ten minutes for the oil to soak in, the surplus is then wiped off with a dry rag. In this condition they can be handled without getting soiled. It is an advantage to let the oil dry in before polishing.

The frames for the loose seats are made of deal of about 3-in. by 1 in. section. It is not necessary to stick to any hard-and-fast rules in this connection, or as regards the joints, which may be halved or dowelled. In the present instance halved joints are made in the chair shown by Fig. 48; but in that shown by Fig. 49 the stuff is too short to make the front and back rail of the other frame, so it is dowel-jointed, rather than go to the expense of cutting into a long board. Both frames are fitted, allowing ⅛ in. less all round to be made up by the upholstery, and they are kept in place by a dowel in the centre of the front rail of the chair, fitting a corresponding hole in the frame. Along the back edge of the frames a triangular slip is nailed on, and mitred at the cut-out corners of the frame that fits the back uprights. The joints of the frames should be allowed plenty of time to set before the webbing can be done, so the chairs can undergo the first part of the french polishing process.

First, they should be well rubbed over with a clean rag to remove all dust. Then pour some polish into a cup, in which is a camel-hair brush as used by polishers. A piece of wadding should now be folded up in a piece of old calico about 6 in. square, making a pad about th size of an egg, pointed at one end. The cover is opened and some polish poured into the wadding until very moist,

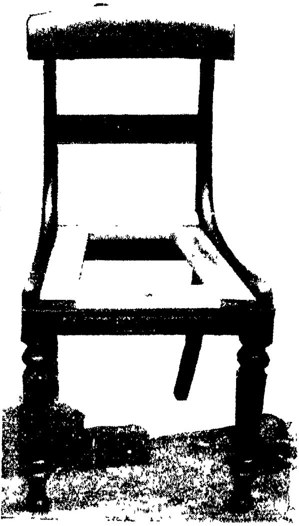


Fig. 49.—One Chair fitted with Loose Seat Frame for Upholstering

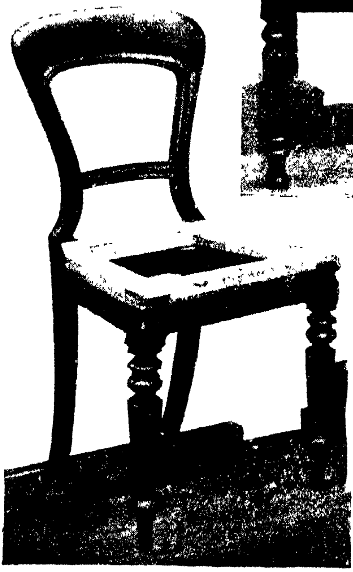


Fig. 48. The other Chair fitted with Loose Seat Frame for Upholstering

and on being folded it oozes freely through the cover with slight pressure.

Have some linseed oil in a saucer to dip the finger in, and rub over the surface of the pad. One chair should be stroked all over with the pad or "rubber," as it is called, once only; then the "rubber" is recharged with polish and the other chair treated likewise. This process should be repeated, one chair drying whilst the other is being done over. The movement is varied occasionally from working in straight lines to a circular motion where possible, such as the top back rails. The turned legs are done over occasionally with the brush, care being taken to have it only moist.

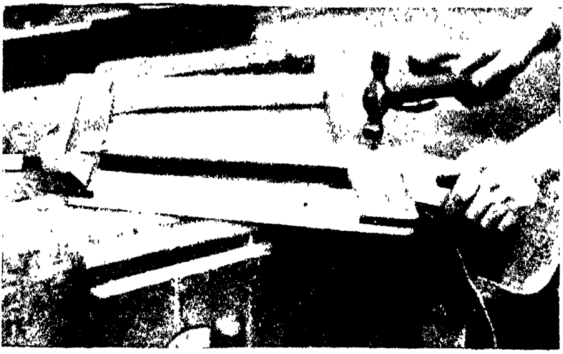
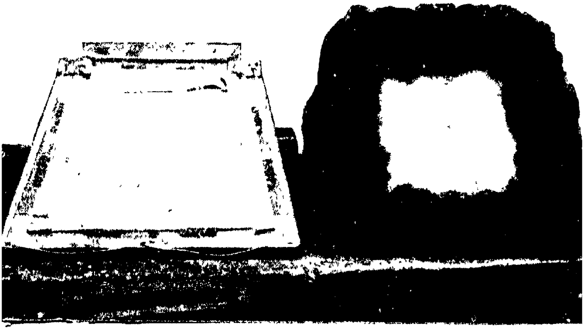


Fig. 50.—Method of Webbing Loose Seats

At first the chairs do not seem to get any better after they have been done two or three times, but after that they begin to shine. When the rubber begins to stick or drag on the work, it should be rubbed over slightly with the linseed oil, and worked out fairly dry before recharging with polish. When fairly well polished the chairs are left to harden and to be finished off later.

The seat frames should now be webbed as shown in Fig. 50. Note the bench hook at the back edge of the frame to keep it down. Two webs each way are put on, equally dividing the space; then they are covered with canvas stretched tightly over and tacked round the doubled edges. The next thing is to half-drive a tack near each corner and two in the centre of the front rail, about 1 in. apart. Then stretch a string from one to the other loosely, and drive them home. As the chairs are good, the seats are to be stuffed with curled hair, which is first packed firmly under the strings, as shown in Figs. 51 and 52.



Figs. 51 and 52.—One Seat Frame Webbed and Canvased, Another with Hair Stuffed under Strings

Upholstering the Loose Seats

When both seats are stuffed firmly and evenly under the strings, the inside is filled up level; then more hair is put on all over and pressed down with the hands, judging for the finished seats to be about 2 in. high on the front edge. But as the seats must be of a shape to match each design of chair, the right-hand seat rises but ½ in. higher than the front edge, and the left-hand seat about 1 in. higher. The loose hair, of course, piles up 6 in. or 8 in. high, according to the strength of the curl of the hair. They are then covered with "scrim" (a light canvas), first loosely, the tacks being only partly driven. Then, pressing down the stuffing, the tacks are removed at one side and the cover pulled down tight, turned in and tacked on the top corner of the edge. The other sides are done in the same way.

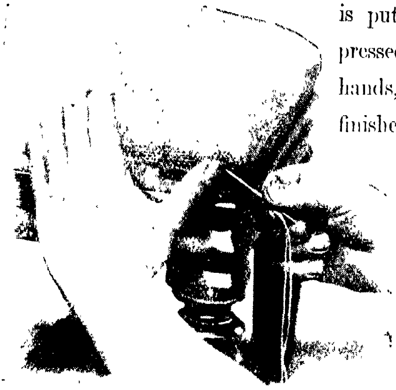


Fig. 53.- Beginning to Stitch Front Edge of Seat

The seats are now ready for stitching the front edge to give firmness and shape. For this purpose a 9-in.

upholsterer's needle and stitching twine are used; the needle has a point at both ends. Fig. 53 shows the beginning of the left-hand seat. The fore point of the needle is entered at the side, about 1 in. from the corner, just on the edge of the wood frame, and comes out about 5 in. on the top, the thumb and fore-finger being used as a guide. The needle is drawn forth as far as the eye only; then the back point is directed and pushed back, coming out on the front about 1 in. from the corner (see Fig. 54). It is drawn through until the knot end of the string is within a few inches of the seat; then a slip-knot is made and drawn tight on the corner. The next stitch, the needle enters about 2 in. farther along the front edge of the seat. It is drawn through to the eye as before, the back point being directed and pushed back, appearing about 1½ in. back from where it entered. The twine is twisted twice

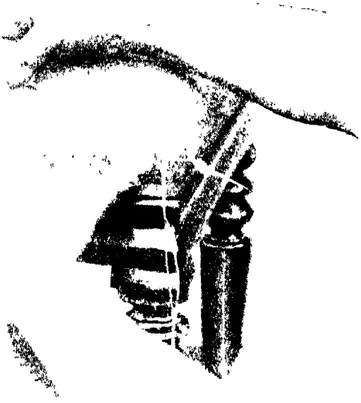


Fig. 54. Back Thrust of First Stitch

round the needle (see Fig. 55), which is then drawn through and the stitch pulled tight. This connects the stitches and prevents them from slipping, and is continued along the front edge to the other corner.

It is thought that the photographic illustrations will make the process perfectly intelligible.

The object of this kind of stitching is first to get the twine behind the stuffing and then to pull it to the front edge By drawing the hand over the top of the seat, a soft place will be felt where the stuffing has been pulled away, which is made up by probing with a tool called a "regulator" (see Fig. 5, p. 11), working the hair forwards from the back edge until the seat is of equal firmness all over (see Fig. 56).

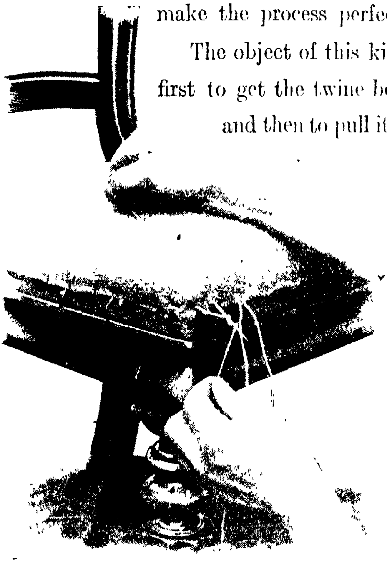


Fig. 55. –Twisting Twine round Needle before Drawing Out

The other seat is done the same until the end of the first row of stitches. Then a second row is begun above, returning to the left-hand corner. With these stitches, the needle is drawn right through about 1 in. from the front edge, so that the stitches also show on the top, but are not connected as the front. This forms a "finger roll" slightly overhanging, as illustrated in Fig. 59.

The chairs have now the appearance shown by Fig. 57.

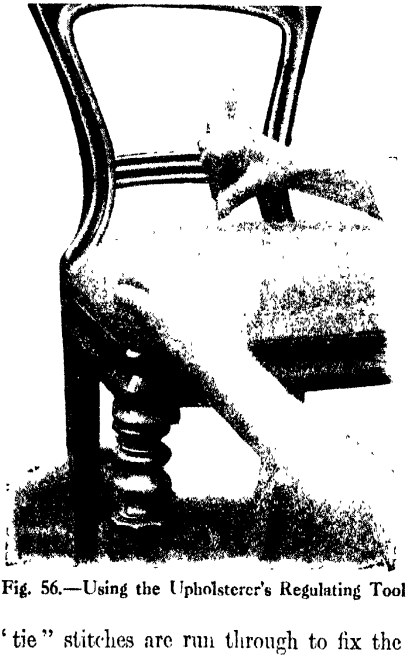


Fig. 56.—Using the Upholsterer's Regulating Tool

A few "tie" stitches are run through to fix the stuffing to the canvas bottom. These stitches show on the under side about ½ in. long, in about the centre of each of the eight canvas squares, and 2½ in. long on the top "scrim" covering. A little more hair is next spread evenly over,

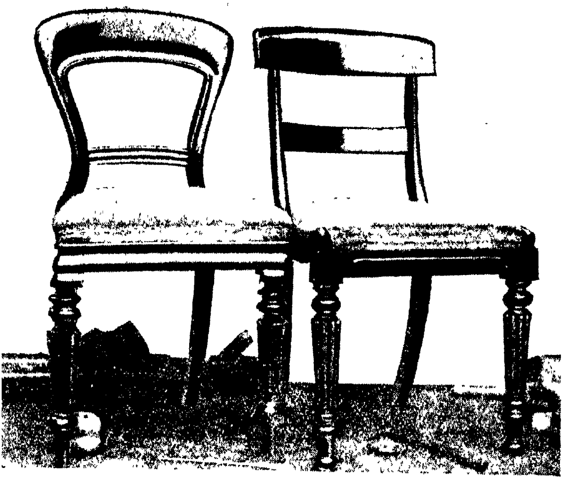


Fig. 57.—Chairs with Seats Stuffed and Stitched

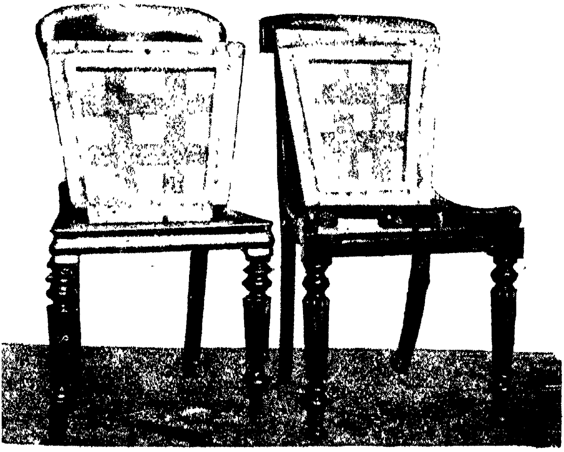


Fig. 58.—View showing Undersides of Finished Loose Seats

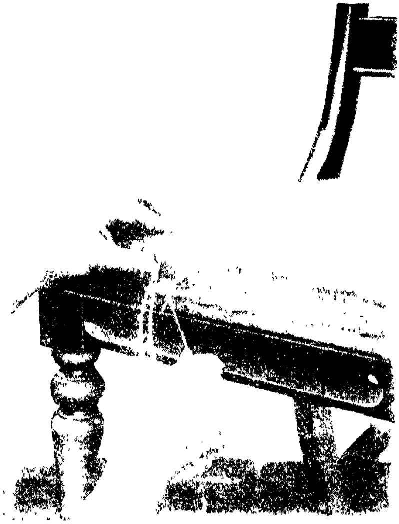
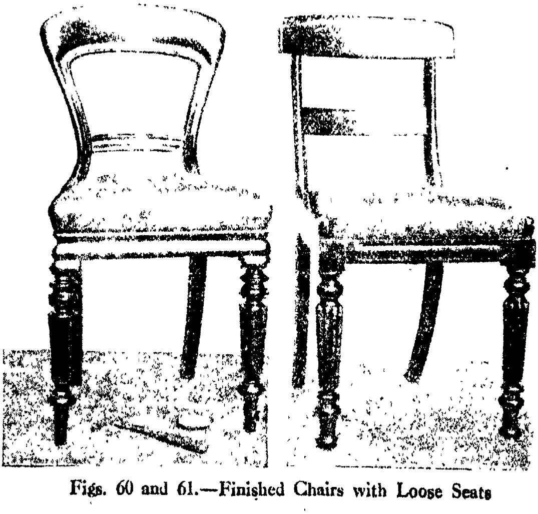


Fig. 59.—Stitching Second Row to form "Finger Roll"



Figs. 60 and 61.—Finished Chairs with Loose Seats then a layer of sheet wadding, and the final cover of leather cloth. The latter is pulled down as tight as possible free from wrinkles, and tacked on the under side of the seat, beginning at the centre and working towards the corners, which are doubled in and tacked last (see Fig. 58).

The polish has by this time somewhat sunk in, so the chairs receive a second polish, thus making them into two really good-class chairs (see Figs. 60 and 61).

CHAPTER V

Easy Chairs

Fig. 62 shows an easy chair very much out of repair. The state of the seat is such that happens to all easy chairs after being in use, say, for from two to twenty years, according to usage or the quality of the material and workmanship.

This chair had been in constant use for six years since being last repaired, and the webbed bottom that supports the upholstered seat had collapsed (see Fig. 63). It is not a difficult matter to re-web the bottom, because it can be done without interfering with the stuffing. The chair should be turned upside down, with the front edge of the seat resting on a stool, and the old web stripped off with a mallet and chisel, as shown in Fig. 64.

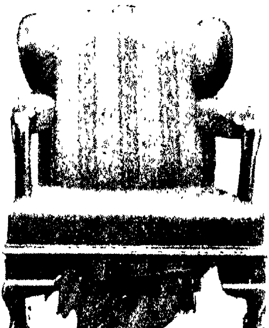
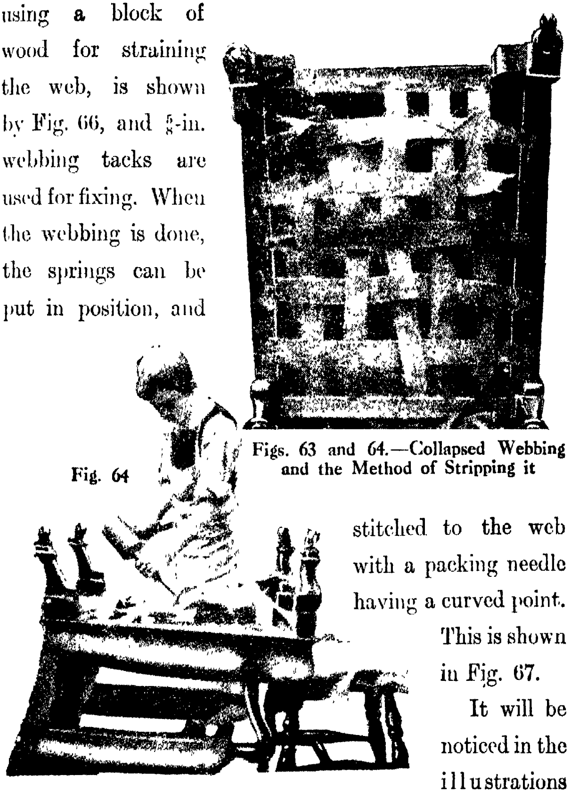


Fig. 62.—Easy Chair to be Repaired

As it is a good piece of furniture, well upholstered and hair-stuffed, the spring canvas and cord lashings are found to be in good condition and likely to outlast another webbed bottom (see Fig. 65). The method of re-webbing, using a block of wood for straining the web, is shown by Fig. 66, and ⅝-in. webbing tacks are used for fixing. When the webbing is done, the springs can be put in position, and stitched to the web with a packing needle having a curved point. This is shown in Fig. 67.



Figs. 63 and 64.—Collapsed Webbing and the Method of Stripping it

Fig. 64

It will be noticed in the illustrations that the chair legs are very rickety. At some time it was required to raise the seat 2 in., and this was done by fixing blocks between the legs and frame. As Fig. 62 shows, this gives the chair a very ungainly appearance, the work having been badly done, so they were taken off to be altered The edge moulding was also taken off, and a wood frame of 2-in. square section made to fit the bottom, the joints being halved, glued, and screwed. The legs were then dowelled on and the moulding fitted round. Then the frame was fixed in place with screws as shown in Fig. 68. The improvement effected is apparent by comparing Fig. 62 with Fig. 69.

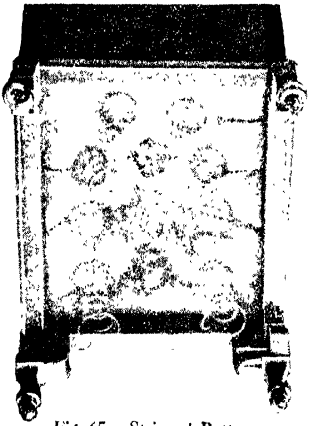


Fig. 65.—Stripped Bottom

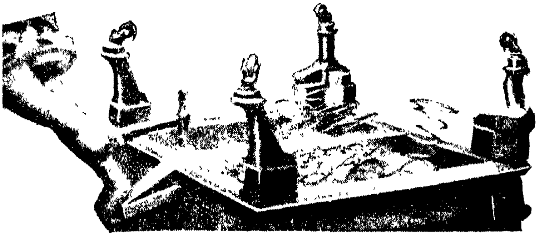


Fig. 66.—Method of Re-webbing Easy Chair

The chair had been black varnished, but this was cleaned off with a cabinetmaker's scraper, disclosing a the quality of walnut. The polishing is a simple matter. The legs, moulding, and front of the arms being of walnut, are rubbed over with the linseed-oil rag, then polished with a rubber and brown polish in the usual way. The wood being hard and close-grained, a grain filler is not necessary; but in gaining the polished surface the process is assisted by occasional applications of the camel-hair brush, polish only being used.

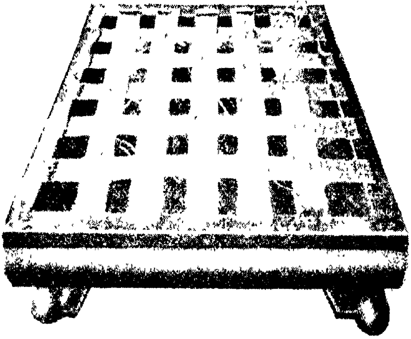


Fig. 67.—Easy Chair Bottom Re-webbed and Springs Stitched

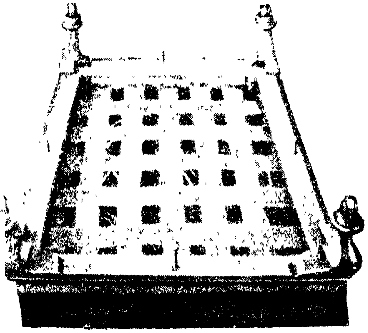


Fig. 68.—Frame made with Legs and Moulding attached to Screw on Chair Bottom

The stuffing was covered with a striped ticking which was rather unsightly; therefore, sheets of white wadding are laid over and covered with blue sateen. The front side of the chair back is covered first, drawing the stuff over and fixing with $\frac{3}{8}$-in. light gimp pins to the backs of rails and uprights. The cheeks are next covered, tacking the gathered edge to the curve of the wood. Then the arms are covered, the stuff being tacked on the under side, the back side of the uprights, and round at the polished

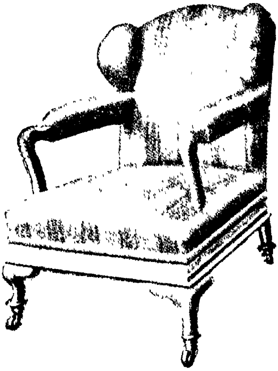


Fig. 69.—Chair Ready for Re-polishing and Re-covering

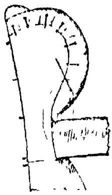


Fig. 70.—Fixing Under Cover on Chair Cheek

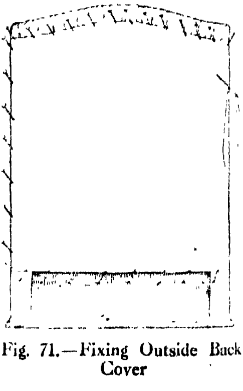


Fig. 71.—Fixing Outside Back Cover

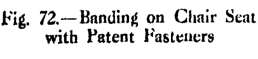


Fig. 72.—Banding on Chair Seat with Patent Fasteners

wood, using fine gimp pins tinted to match the stuff. The outside cheeks were covered with a piece of stuff tacked to the back upright and pinned over to cover the tacks and neatly stitched (see Fig. 70).

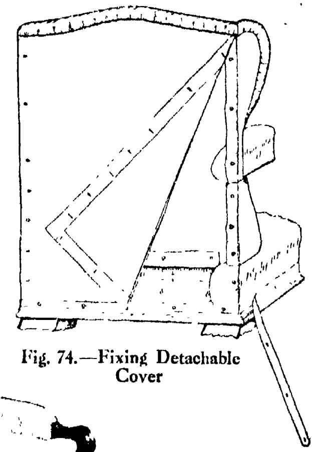


Fig. 74.—Fixing Detachable Cover

The seat is next covered, the stuff being tacked close to the moulding. Then a piece is pinned over the outside back, and stitched on as shown in Fig. 71. The tacked edge at the moulding is covered with a banding long enough to go right round the chair, and made of a strip of the stuff 2¼ in. wide folded to ¾ in. wide, machine-sewn to keep it together. Patent fasteners are sewn on at regular distances, allowing

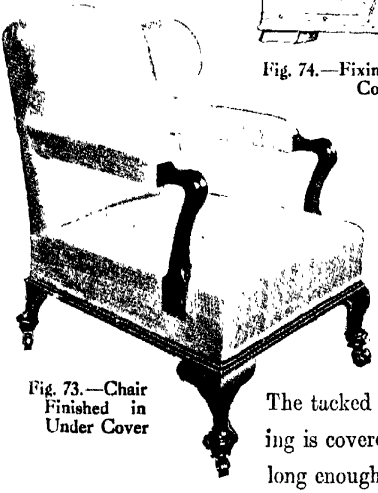


Fig. 73.—Chair Finished in Under Cover

five or six to each side of the chair (see Fig. 72). These are for fixing the detachable covers.

Fig. 73 shows the chair at this stage of the work. The blue sateen is intended only as an under cover; but with the polished walnut it has an appearance good enough for a finished article.

The detachable chintz covers are of a striped pattern, and particular attention should be paid to getting it to work out uniform. The back piece is fitted first, observing to get one of the principal stripes central.

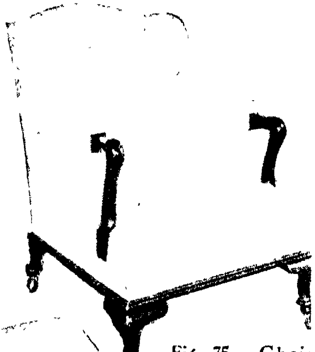


Fig. 75.—Chair Finished in Detachable Covers

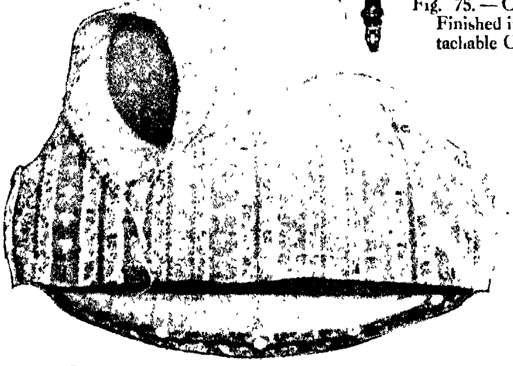


Fig. 76.—Cushion and Pillow for Chair: Open

and then the remainder comes right. This is temporarily tacked at the back of the rails and uprights; then pieces are fitted over the cheeks, and also temporarily tacked. They are then pinned on, basted together, and at the gathered edges. Where the stuff pulls out at the lower back rail, and turns round under the arms at the back uprights, a hem about 1 in. wide is made. A piece

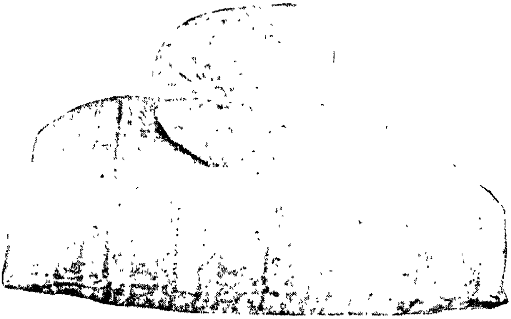


Fig. 77.—Cushion and Pillow: Closed

is next cut to cover the outside back completely, with a hem at the bottom and side edges to fit neat at the moulding and outline of the uprights, and turned in and basted at the top gathered edge of the back cover. Pieces are fitted to the outside cheeks in the same way to extend below the arm and 1 in. round the back. Then they are taken carefully off and machined.

The arm covers are fitted after the same manner, having hemmed edges to overlap each other on the under side, and to turn round the back. Where they fit at the polished wood they are finished with a close-fitting wristband about $\frac{5}{8}$ in. wide, made to show the dark stripe of the stuff.

The seat cover is next fitted and small holes made on the hemmed edges to correspond with the patent fasteners and four small brass round-headed nails which are driven into the back wood rail. The arms and back covers are also fixed with the brass nails. A banding is next made and the corresponding parts of the patent fasteners sewn on to match. This forms a detachable gimp to keep the covers on and give a good finish (see Figs. 74 and 75).

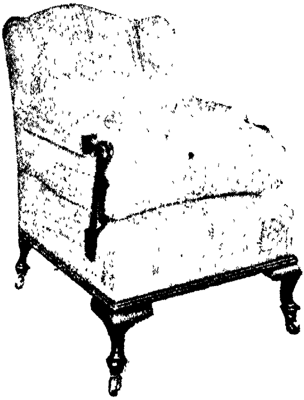


Fig. 78.—Easy Chair Complete with Cushion and Pillow

There are a down-stuffed cushion and round pillow belonging to the chair; and these also should be covered with the blue sateen. The detachable cover for the cushion is made with plain seams, the opening having a single hem at the button-hole flap and a double hem to correspond, the inside hem fitted with linen buttons, the outside one as a cover. The round pillow is fitted with pipe seams and borders with a running string at each end (see Figs. 76 and 77).

Fig. 78 shows the chair finished. The cushions may appear to be too high; but they are so soft that a person sitting in the chair sinks down into ideal comfort.

CHAPTER VI

Levelling Chair and Table Legs

In many cases, the cause of a chair, table, or other four-legged article rocking instead of standing steady on the floor is because the floor itself is untrue. This should be ascertained by moving the article about on the floor.

If the fault is in the furniture, one of the legs must either be shortened, or one of them must have some packing, wood or cardboard of the required thickness, nailed under it. Shortening one of the legs by cutting is, of course, the best way. The cause of the apparent inequality in length is either that the article was badly constructed, or that the warping of some part of it has raised or thrown down one of the legs. In any case, their actual length as indicated by measurement is generally the same.

Whether the rectification is done by cutting or by packing, there is no need to alter more than one of the legs. Three legs will always make even contact with the floor, whether the latter is a true surface or not. It is essential, therefore, to reduce or increase the length of the fourth leg until it is in contact at the same time as the others; but a true surface must be selected for making the correction.

A simple method of marking the exact amount to be cut from the fourth leg is shown in Fig. 79; this is a method of scribing. Four blocks of equal thickness (four pieces cut from the same planed board) are used on a true surface beneath the legs. Three of the legs stand on blocks, and the fourth block is placed at the side of the leg to be cut. A line can then be marked as shown on the side of the leg, or all round if necessary, and this will indicate the exact amount to saw off. There is a choice of two legs at opposite corners which may be shortened, or either of the two others may be lengthened. The height of one of the short legs from the floor, when the three others are touching, might, of course, be measured instead of using blocks, and that amount cut from one of the others; but the result might not be so exact.

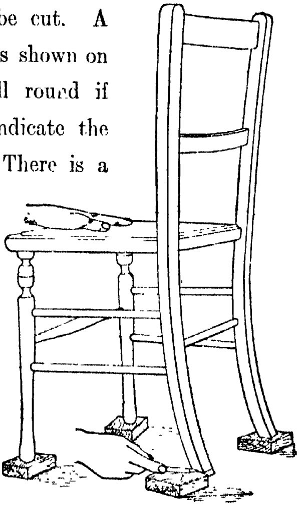


Fig. 79.—Method of Levelling Legs

A tenon saw should be used for cutting, and care should be taken to cut in the same plane as the bottoms of the other legs, so that the newly-cut surface will bear properly.

CHAPTER VII

A Drawing-room Settee

A SETTEE couch of French origin is shown by Fig. 80. Its framework has been re-enamelled pure white, the little pieces of carving being picked out in gold leaf, and the upholstery re-covered with a strong material of pale blue twill silk. This latter is a stuff not generally used for upholstering, but the completed article has an extremely good appearance, and the stuff seems likely to wear much better than the silk tapestries usually employed.

When the settee was submitted for renovation the old covering was of silk tapestry of a floral design and stripes, and the frame was enamelled but not gilded. Originally the frame had been gilded all over, and when it required renovating was enamelled instead of being re-gilt. Woodwork which is gilded is prepared with a mixture of size and whiting. This ground and the enamel were much chipped off, especially where the upholstery is tacked round.

The first thing to be done is to strip off the outside back cover, then the front back and seat. The frame is next washed with hot water and soap, using a small nail-brush and cloth, and finished off with clean warm water. When dry, all the small chipped-out places are filled up with a preparation of hot size and whiting to the consistency of thick cream. This is allowed a few hours to set, and the whole framework is then smoothed down with fine glass-paper. It is now given a thin coat of white enamel applied with a camel-hair brush, in a warm room free from dust.

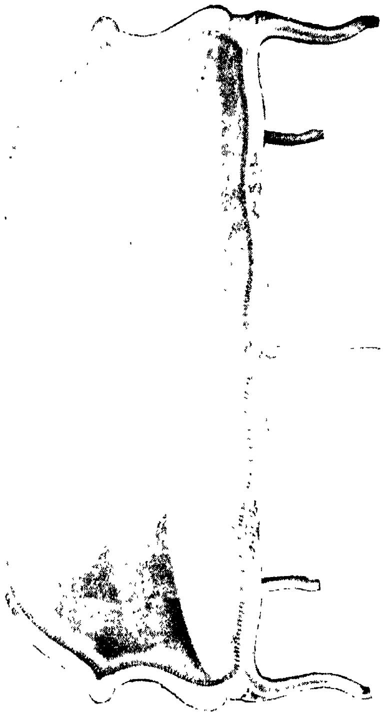


Fig. 80.—Drawing-room Settee Finished

After standing for a day it is rubbed lightly over with glasspaper, and again enamelled. This second coat may at first seem to be sufficient, but after standing two days, dark specks underneath may show through, so a third coat will be necessary.

When this is fairly dry the carving is painted evenly over with gilders' oil gold-size, and left until this is nearly dry and feels slightly sticky ("tacky") to the touch; then the gold leaf is laid on, and pressed in with a small pad of wadding. Use a hair tip, occasionally applied to the hair of the worker's head, to pick up the gold leaf and put it where required; or use transfer gold leaf on paper, and merely rub the back of the paper after applying.

The upholstery stuffing may be in good condition, and only require re-covering. The new covers are cut by laying the old ones on the material, observing to get the "figure" or pattern of the silk to work out symmetrically, the back with the seat. They are marked round and cut, allowing ½ in. to turn in on the edges to be tacked. The stuffing is then covered with sheets of wadding, and the covers tacked on, first getting them into their right position and fixing temporarily with partly driven tacks. The back seam is then stitched in through the stuffing, to give shape to the back; then the covers are finally tacked, getting them quite tight and free from fulness or wrinkles. It is then finished with scroll gimp which is fixed with fine gimp pins to match, placed behind the threads.

CHAPTER VIII

Tables

Repairing an Afternoon Tea Table.—The table about to be described was submitted for repairs. It is a desirable piece of furniture, and as it is of simple construction, particulars will be given to enable readers of this handbook to make a similar one.

The top is 2 ft. 6 in. square by ¾ in. thick, composed of two boards 10½ in. wide for the drop leaves, and one board 10 in. wide for the centre stationary piece. The extra ½ in. on the drop leaves is necessary to make the rule joint as shown in Figs. 81 and 82. The four corner legs are 2 ft. 1 in. long and 1 in. square, of rather plain turning, with 3 in. of square left on the top end, and 1½ in. of square 3½ in. from the foot. The stand complete measures 2 ft. by 9 in. The side rails are 1 ft. 10 in. long, the turned ones having a ½-in. pin ¾ in. long

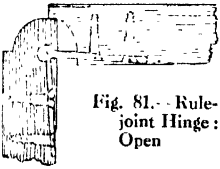


Fig. 81.—Rule-joint Hinge: Open

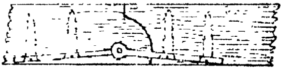


Fig. 82.—Rule-joint Hinge: Closed

on each end (extra length), and a square is left on 1½ in. long, the centre of which is 6½ in. from each end, measuring from the shoulders. The end rails are 7 in. long (pins extra). The top end rails are 2½ in. wide, shaped on the lower edge, and the side rails are 2 in. wide, straight. These are dowel-jointed to the legs, and the stand is fixed to the top with screws through the rails. The frames for the adjustable legs are composed of the same kind of legs

Fig. 83

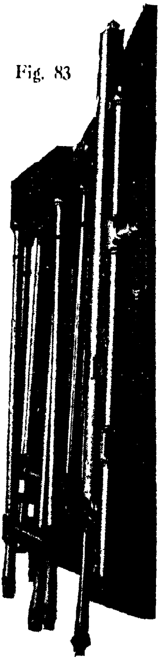


Fig. 84

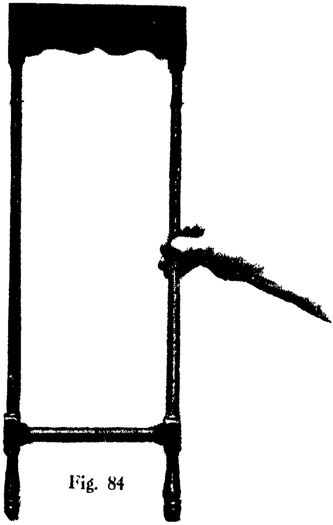
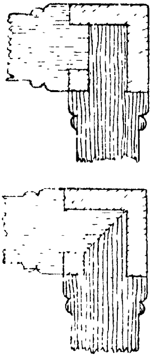


Fig. 83.—Broken Afternoon Tea Table

Fig. 84.—End Frame of Table Stand

and rails, the legs with more square left on for the joining of the rails and cutting of the notches to fit the side rails. Two of them are cut off at the foot, and jointed to the left-hand squares of the lower rails, and the other parts of the legs are fitted with dowels or pins at each end, to work between the lower and top rails in suitable holes.



Figs. 85 and 86.—Incorrect and Correct Methods of Joining Rails

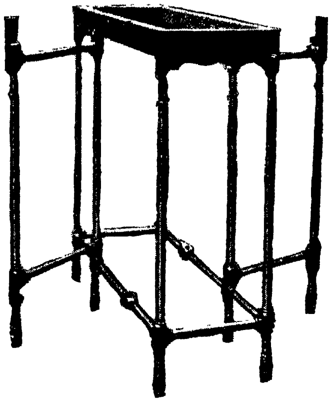


Fig. 87.—Table Stand Complete

The other two legs are notched half through to fit the side rails when closed, which are notched likewise to let the legs in flush.

Fig. 83 shows the table as it came to be repaired. It had completely collapsed owing to some of the joints being badly made, though the work was otherwise very good; the joints of the long rails to the legs were too short in the pins and dowels. The end frames were all right (see Fig. 84), because these joints were made first, and the pins are of sufficient length. This is made clear by reference to Fig. 85. The correct way to make the joints is shown by Fig. 86. It would be an advantage to have the legs 1⅛ in. or 1¼ in. square.

In repairing these joints the short pins are cut off and replaced with dowels, and the holes chiselled to make the pins fit to a mitre. In gluing up the stand the gate leg frames are put in at the same time (see Fig. 88), the stand complete being shown by Fig 87. The top is fixed on with eight screws through the rails. Fig. 89 shows the table complete open, and Fig. 90 a side view closed.

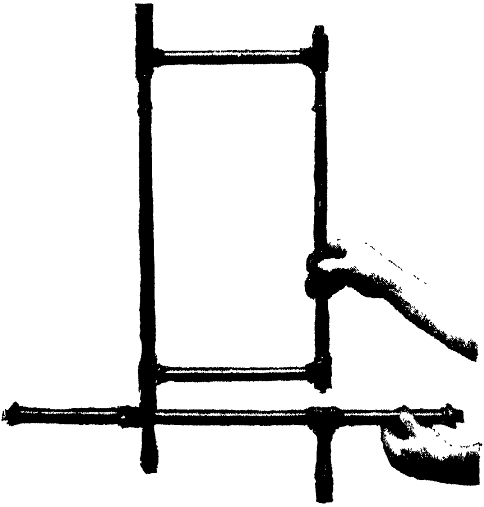


Fig. 88.—Frame of Gate Leg or Lower Side Rail

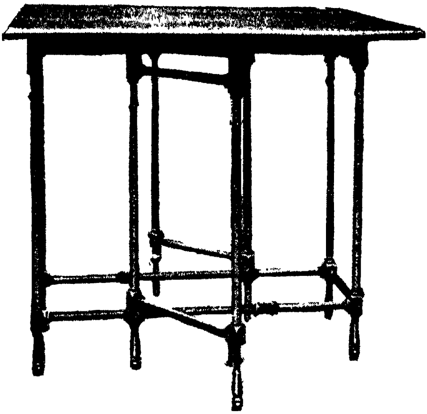


Fig. 89.—Afternoon Tea Table Complete with Top Open

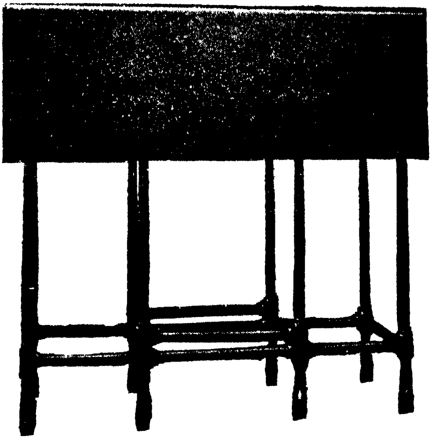


Fig. 90.—Afternoon Tea Table Closed

Repairing a Mahogany Card Table.—Fig. 91 show an old mahogany card table of a pattern that is not mad now, and might be included under the heading of antique There are a good many tables after this style of construction, but varying in form and material; some square some with rounded corners, and others circular, havin square or turned legs. The similarity is in the top bein

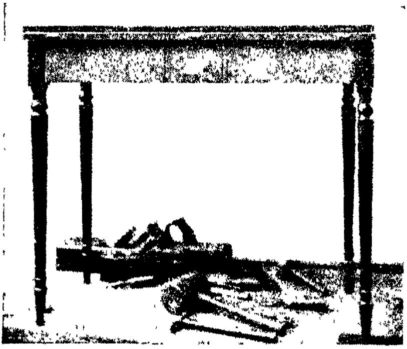


Fig. 91.—Back View of Old Card Table

in two equal parts, hinged on the edges for folding, and having a back double-hinged rail to adjust the legs to support the upper fold of the top when open. This table is a well-made article in Spanish mahogany, the front and side rails being bordered with satinwood and ebony banding inlay; but as nothing is to be done with that Fig. 91 gives a back view of the table folded, showing the hinged rail A. This rail is destroyed with worms, and must be removed to save the table, and replaced by a new one.

The table is first turned upside down on the bench, and the corner blocks knocked out to get at the four screws with which the hinged rail is fixed through the inside rail. When removed, the rail must be sawn through close to the legs and the tenons cleared out of the mortice holes. The rail measures 2 ft. 7½ in. long by 4 in. wide by 1⅛ in. thick; but 6 in. must be allowed over in the length for the tenons and hinged joints. These joints are particularly rigid and strong when properly made, but it is essential that the wood should be hard, well-seasoned, straight-grained birch. In this case it is sawn from the side rail of an old wood bedstead, and nothing could be better.

When it is planed to the correct size and thickness, 7 in. is cut out of the centre and the four cut edges planed quite square. The joints are then set out, first by scribing a cut 1/16 in. deep, ⅞ in. from each of the squared ends, on the outside surface with a sharp-pointed knife. The ends are then marked off into five sections, the corner and centre sections being ¾ in. wide, which will leave the others to be ⅞ in. wide. With the centre part of the rail, the centre and corner sections are to be utilised, and those between to be removed as waste being pencil-marked with a cross. The sections of the two larger portions of the rail are marked just the opposite: The outer sections are all marked on the corner edge with a compass set to scribe a 1⅛-in. circle. The finished setting out is shown in Fig. 92, the inside being similar but with the surface cut only on the waste sections (see Fig. 93).

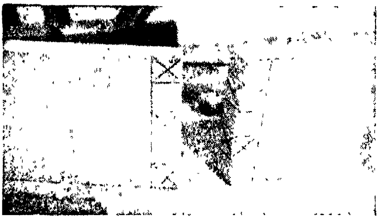


Fig. 92. — Setting out Hinged Joint of Rail: Back View

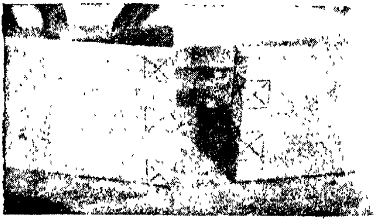


Fig. 93. — Setting out Hinged Joint of Rail: Inside View

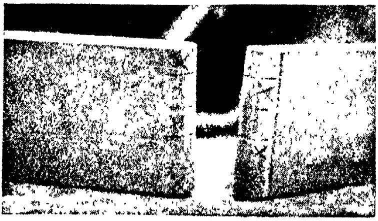
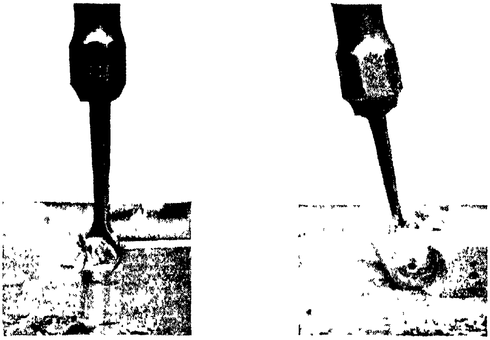


Fig. 94.— Sections Cut and Rounded for Hinged Joint

The next thing is to cut the sections with a fine saw, keeping at the waste side of the marks, the ends being then rounded with a sharp chisel and smoothing plane to the compass marks. They will then be as shown by Fig. 94, except that a little piece has accidentally splintered off one corner. To remove the waste, two well-sharpened, clean-cutting centre-bits are used, sizes 1⅛ in. and ¾ in.



Figs. 95 and 96. Boring out Waste Sections

Fig. 95 shows the 1⅛-in. bit boring out the corner waste sections of the long portions of the rail, which is held in the bench vice. The centre waste is bored from each side with the ¾-in. bit, as shown by Fig. 96, but is finished with a sharp chisel (see Fig. 97). The waste is removed from the centre part of the rail in the same way. The

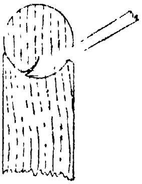


Fig. 97.—Finishing Hinged Joint

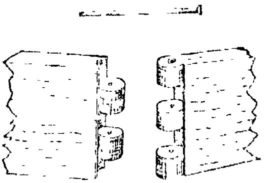


Fig. 98.—Hinged Joint Ready for Putting Together

joints are then trimmed to fit each other to a nicety, and bored through the sections with a bit to make a hole to fit tightly a 4-in. wire nail, the top section of the centre piece being countersunk for the nail head (see Fig. 98).

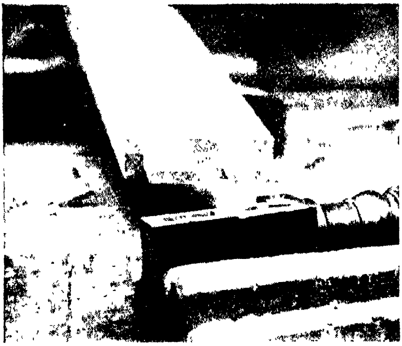


Fig. 99.—Mortice-and-tenon Joint ready for Gluing up

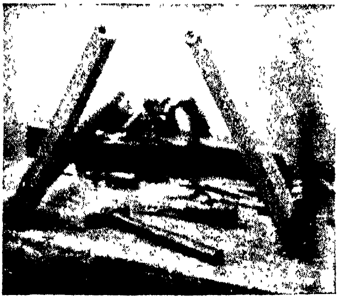


Fig. 100.—Finished Hinged Rail ready for Fixing in Place

The joints and pins are now well oiled with linseed oil and put together.

The rail is now tried in place, and will be found to be straight with the top. Accurate measurement is taken n the length of the rail, and the shoulders of the tenons marked on.

The joints are next taken apart, and $\frac{1}{16}$ in. is planed ff the top edge of the long portions, and is toothed for slip of green baize, which will have to be glued on finally. The tenon joints are next made to fit the mortice holes n the legs as shown by Fig. 99, which shows the upper ortion of the leg in the bench vice. These joints are then glued up, and the rail hinged together, as in Fig. 100, which shows the rail bent as far as it will go, this being he right position when the table is open.

A slip of green baize is now glued on the top edges to revent marking the polished top. The centre part of he rail is glued in place and secured with the four screws hrough the inside rail. Then the glue blocks are replaced, nd the new wood oiled over and stained.

Repairing Old-fashioned Table in Walnut and Burr. —The old-fashioned table in walnut and burr about to be onsidered will be somewhat interesting to the modern worker on account of its design and make.

Fig. 101 shows the table as it comes to be repaired. ts present condition is due partly to the joints being not trongly made, though the work is good in every other espect. The table has become shaky, and has been endered useless by a hasty, impracticable attempt at mending it by hammering in nails.

The table top is of solid $\frac{3}{4}$-in. plain walnut, with an ogee moulding worked on the edge, the top surface being veneered with burr walnut. The shaped frieze frame is of 1½-in. soft pine, the long rails being tenoned into the short rails, and the edge is cross-banded with veneer. The remainder of the table is of solid walnut. The two turned pillars have 1-in. diameter pins on the top end to fit into holes in the frame, but the pins being of soft wood, have become loose. The turned rail is loose through insufficient glue, and three of the curved feet through bad-fitting dovetails in the slots of the turned pillars, one of them being fractured in the attempt at nailing. All the parts of the table are intact with the exception of two turned terminals for the lower ends of the pillars. One of these terminals is missing, and the other has been submitted with a wood block 3 in. square to the wood-turner to turn one to match.

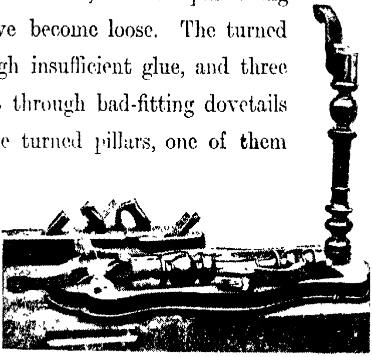


Fig. 101.—Old-fashioned Walnut Table to be Repaired

First of all the fractured leg is attended to. The broken pieces being found to fit neatly in place, they are warmed and good hot, strong glue (but not thick) is applied to both the broken surfaces, which are placed together quickly, and pressed close and accurate. The fractured pieces are

CHAPTER IX

Making Drawers Slide Easily

IN many cases when a drawer sticks it will be found that the place in which it slides, or ought to slide, is the part that requires most attention.

A drawer to run well must be perfectly parallel back and front, although the sides and top and bottom may be eased off to the extent of $\frac{1}{16}$ in. to $\frac{1}{8}$ in. at the extreme ends, this easing off to extend to about $\frac{1}{2}$ in. from the end. For small drawers much less will be sufficient; large drawers may be allowed a little more.

The runners—that is, the wood against which the drawer slides in its receptacle—should not be quite parallel, but a little wider at the back, or the drawer cannot run well. Here again it is impossible to give exact measurements. A drawer 1 ft. wide, 6 in. high, and 1 ft. 6 in. long would require the space at the back to be about $\frac{1}{8}$ in. wider and higher than the front.

One great fault with drawers is that they "wind"—that is, if placed on a perfectly flat table, all four corners will not touch the level surface. This is most difficult to rectify. The cause may be bad workmanship, or it may be the use of unseasoned wood which has twisted in drying. The high parts may be planed off; but then the drawer will be small, and must be made up to its proper size by gluing on strips of wood; or the receptacle may be reduced in size. The latter is usually the easier to do.

Suppose that the top long drawer of a 4-ft. chest of drawers which has stuck half-way is to be rectified. Do not use too much force in pulling the handles, or they may come off, or the whole front come away from the sides. Unscrew the back from the carcase, and while a helper pulls at the handles, gently tap the ends at the back with a hammer, a piece of wood being interposed endwise of the grain to act as a punch. Take care to hit the end of the drawer that is farthest in. If this does not move the drawer, it may be necessary to remove the partition between the drawers by sliding it out, and then the runners at the sides of the carcase, by gently prising them out, first previously removing the screws if necessary.

The drawer must be badly jammed if it still remains fixed, and removal to a warmer and dryer room had better be tried, and a little time allowed before resorting to stronger measures.

When the drawer is removed, first replace the partition and runners, and ascertain whether the latter are wider apart at the back than at the front. This is best done by cutting a strip of wood the exact length of the opening of the front, and sliding it to the back. If not, the runners must be reduced. Or it may happen that there is no runner, or that it has been forced out of place.

Having got the runners parallel, except for the little play mentioned, next see that they are straight from back to front; the sides of the carcase may have bulged and bent them. Afterwards do the top and bottom in a similar way. Before and during the process of adjustment, see that the runners do not wind with the front. This can be ascertained by placing the eye about 3 ft. from the front of the bottom rail on which the drawer slides and level with it, and observing that the runner ends are in the same plane, by looking first at one end and then the other without removing the eye. This requires practice, and is termed "taking it out of wind." Repeat the process for the under side of the top rail, and adjust the runners as required.

Having got the carcase right, next examine the drawer itself for winding, and whether it is parallel and straight from back to front. If the sides bulge, they can sometimes be knocked in a little. If not, the surplus must be planed off, first making a pencil mark where the parts are not to be planed.

Now try the drawer to see if it will run in. If it goes half-way, take off a little with a plane (or scraper if the wood is hard) where it is tight. Run it in and out several times, and see where it shines, and carefully remove the shine. Avoid taking any off the edges of the front as long as possible, or it will be too small and a bad fit. In shutting or opening a well-fitting drawer, a little friction should be felt for the whole length.

The sides and top and bottom edges should next be well smoothed with medium and fine glasspaper, until they shine. Finally they and the runners should be well rubbed with spermaceti wax, and then with a linen rag, using plenty of pressure. Spermaceti sometimes crumbles away when used. If so, melt it at a low heat in a jar, pour into a cardboard box, and keep it there, cutting down the edges as required.

CHAPTER X

Cupboards and Boxes

Repairing a Painted Cedar-wood Cupboard.—Occasionally furniture in oak, mahogany, or other fine woods, which has been painted instead of being polished, has to be dealt with. The following is an example. Fig. 104 shows a hanging medicine cupboard about 3 ft. square by 8 in. deep. It is made of solid cedar-wood throughout. The sides, shelves, and back are of ½-in. thickness; the top moulded shelf of 1-in. thickness, the door frames of ¾ in., and the panels of ¼ in. It is of modern make, but the panels are covered with antique needlework. The woodwork has been painted at three different times during its existence, first white, then green, then white again; and has had two coats of paint each time. It is a pity to paint cedar, and, as it had not been done well, the cabinet had the appearance of a cheap deal article. The needlework is in satin stitch of various colours, and undoubtedly a fine piece of work. It was purchased by an English tourist from an old church in Spain, where it was probably worked by the nuns a hundred or more years ago. An observation shows that the colours and arrangement are good, that the work has been done by hand, and must have taken a long time to complete. These are some of the points which make a piece of work valuable; whilst additional value often accrues from age and associations.

The cabinet was submitted for the purpose of having the needlework removed, so that it could be used for

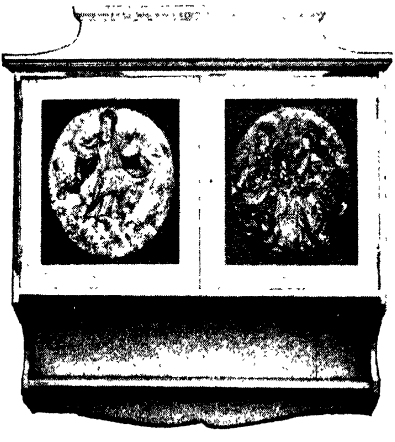


Fig. 104.—Cedar-wood Cupboard with Antique Needlework Panels

another purpose. The woodwork required some small repairs, and it was desired that the paint should be cleaned off so that the cedar could be polished in its natural colour.

First the hinges were taken off the doors, and the panels taken out; then the back, which was screwed on, was removed. The moulding at the top of the back and the moulded shelf, which was fixed with screws, was next

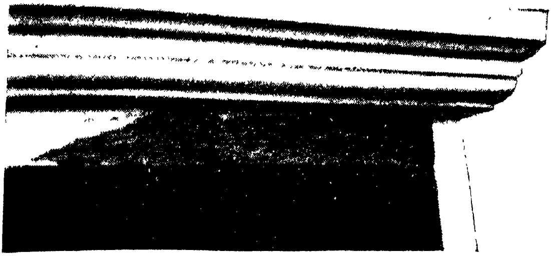


Fig. 105.—Imperfect Top Shelf of Cedar-wood Cupboard

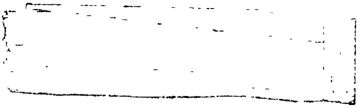


Fig. 106. —New Piece inserted into Shelf

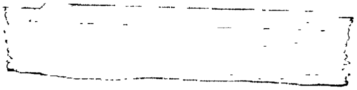


Fig. 107.—New Piece inserted into Shelf Edge

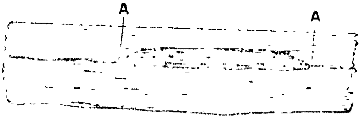


Fig. 108.—Piece broken out of Corner Edge of Shelf

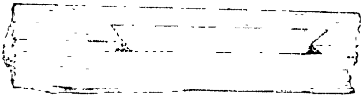


Fig. 109.—Shelf Edge prepared for Piecing

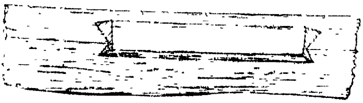


Fig. 110.—New Piece Glued into Shelf

removed. The paint was then given a thick coating of a commercial paint remover, and allowed to stand for an hour. The paint was then scraped off with a cabinet-maker's steel scraper. Some parts where the paint was

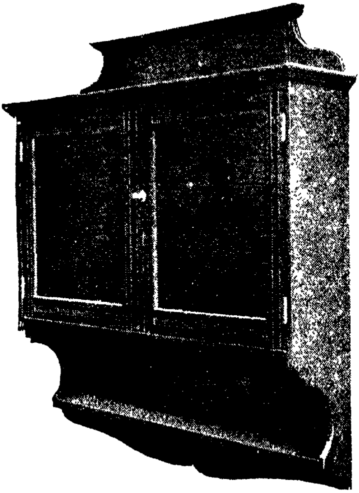


Fig. 111.—Cedar-wood Cupboard Polished Complete

thick required two applications of the remover. The wood was then scraped and glasspapered.

The top shelf had three pieces broken out. Fig. 105 shows the worst of these, the photograph being taken before the moulded shelf was taken off and the paint removed. The jagged surface of the break was trimmed straight with the chisel, and a wedge-shaped piece glued in as shown by Fig. 106. Another piece was let in as shown by Fig. 107. Fig. 108 shows a small piece broken out of the corner of the edge from A to A, being prepared as shown by Fig. 109, and a piece glued in as in Fig. 110. These were allowed to set before they were trimmed off level; but when done the joints were almost invisible. Another way would have been to cut out and fit a new slip right along the edge of the shelf; but such a slip of cedar did not happen to be at hand. Other wood such as pine or whitewood, stained to match, could have been used, but that would have been deviating from a standard of good workmanship.

The cabinet was then oiled over with linseed oil, and polished with a rubber in the usual way, using ordinary brown french polish, no grain filler being required. After being allowed a day for the polish to harden, the cabinet was fitted up and completed, as shown by Fig. 111.

Repairing a Corner Cupboard.—The photograph reproduced by Fig. 112 shows a corner cupboard in the condition in which it came to hand to be repaired and polished. It is an article which would be classed as "antique," and the object is to "restore" it to its original condition.

These cupboards are in demand, and it is not always easy to obtain one, so the particulars of construction will also be given to enable the reader to make a similar cupboard. It is not a very difficult article to make, is very useful, and has a pleasing, old-fashioned appearance.

The wood used is oak, the cornice and plinth moulding and the parting bead and beadings on the frieze being of mahogany. The frieze is mahogany cross-banding, and the doors have a margin of cross-banding ¾ in. wide. The beauty of the grain was spoiled with too much varnish, and the inside was covered with six layers of dirty wall-paper. Some pieces of beading and moulding were missing.

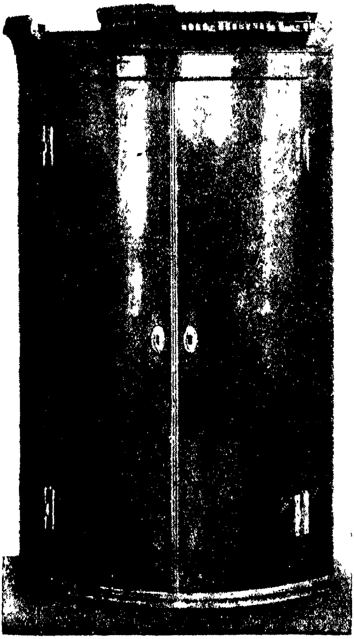


Fig. 112.—Corner Cupboard to be Repaired

Fig. 113 shows the state of the cornice, which is an example of the poor attempt that is often made at repairing, particularly when glue is used. Instead of taking a little care to have the glue right, and the sections of moulding stuck on straight, plenty of thick glue has been used and the work done in a way that makes the whole thing look ugly and worthless.

The hinges and keyhole plates were green and dirty, so they are taken off and pickled in strong soda and water for several hours, to be afterwards brightened up with glasspaper and emery-cloth.

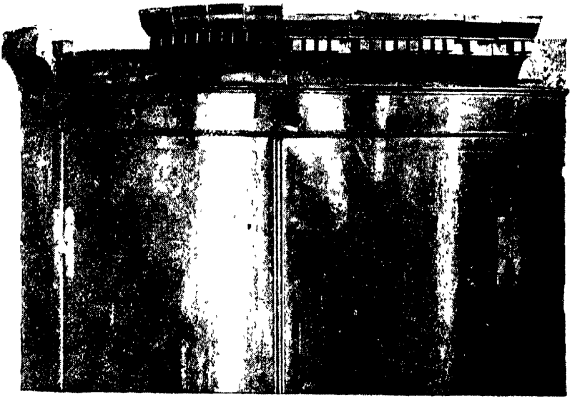


Fig. 113.—Broken Cornice of Corner Cupboard

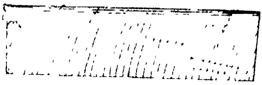


Fig. 114.—Section through Pilaster

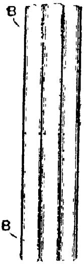


Fig. 115. Matching Piece into Parting Bead

The cupboard is washed all over with soda and water, the paper when soaked with the water being removed with an old knife. The pieces of cornice moulding are taken off and cleaned free from old glue; then carefully fitted in place, and fixed one by one with hot-glue, not too thick. A new piece 1 ft. long will have to be made in old mahogany, being accurately matched up; also a piece of frieze beading, which was fitted as shown in Fig. 114. It is joined as shown at A, glued and secured with the fine pins or needle points driven in on the slant. This sends the join up close, and prevents the tendency to spring.

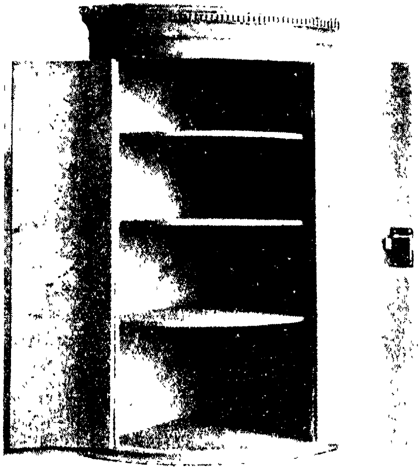


Fig. 116.—Repaired Corner Cupboard : Open

Fig. 115 shows a small piece matched into the reeded parting bead from B to B, glued, and fixed with one pin. The cornice is allowed plenty of time to set, and is then trimmed with a sharp chisel, and cleaned up with the scraper and glasspaper. Then the whole front is scraped and smoothed up, first with No. 2 and finished with No. 1

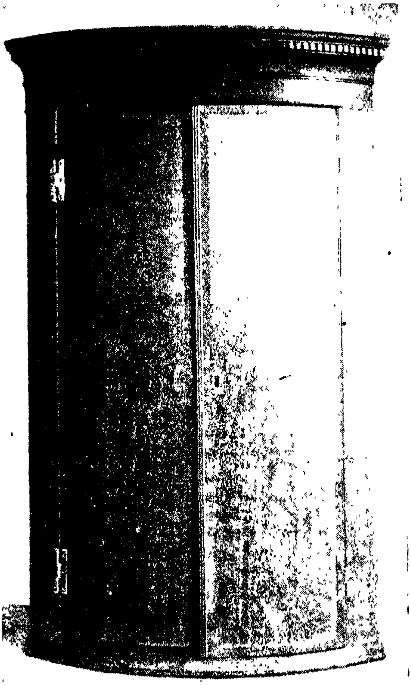


Fig. 117.—Corner Cupboard ready for Polishing

glasspaper. The inside is stained with burnt sienna in thin glue size; but the doors, which are of solid oak, are not so treated.

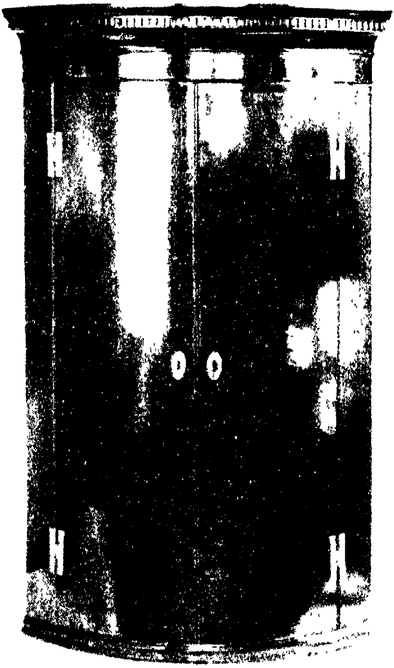


Fig. 118.—Corner Cupboard Finished

The cupboard now has the appearance shown by Figs. 116 and 117, the figure of the wood showing up well. It is next rubbed over with a clean rag dipped in raw linseed oil and french-polished with a rubber in the usual way, which still further brings out the colour and beauty of the grain. The polish puts a lacquer on the brass fittings, which prevents tarnish. Fig. 118 shows the finished cupboard.

Repairing an Antique French Box.—The cabinet-makers of bygone days were very fond of making small boxes for various purposes, such as for holding tea, writing requisites, needlework, and the like, and on these boxes they expended much time to produce examples of fine woodwork. Such articles made by hand may seem very expensive as compared with the small boxes of modern production, the chief feature of which is generally their cheapness.

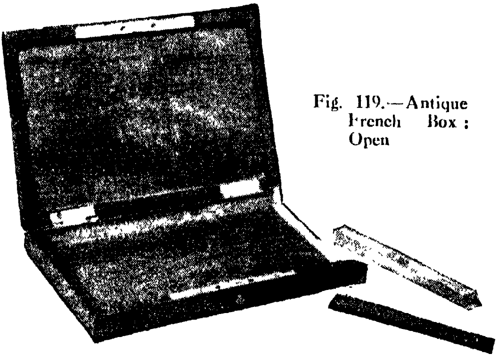


Fig. 119.—Antique French Box: Open

There are still in existence many of these old boxes which, with careful renovating, will reveal their worth.

Often they require considerable time and patient work spent on them; but the result ought to be full compensation.

The accompanying photograph (Fig. 119) shows an old French box which was purchased in France. Its appearance was such that an uninitiated purchaser would grudge to give a shilling for it. It had been purposely kept in bad condition with the idea of showing its "genuineness," but that is not always a good criterion, as there are such things as "faked" antiques. The first thing was to clean it in order to examine it thoroughly, and the photograph (Fig. 119) was taken when this had been done. It was then found to be made of beech; but none of this wood is seen when complete, as the box is veneered inside with satinwood, and outside with burr walnut and a wood supposed to be pear wood.

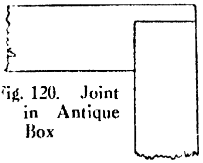
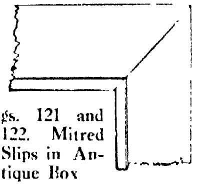
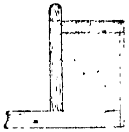


Fig. 120. Joint in Antique Box



Figs. 121 and 122. Mitred Slips in Antique Box



The box measures 7 in. by 4½ in. The top side of the lid is slightly convex both in the length and the width which makes the box when closed to measure 1 in. thick at the corners, 1¼ in. at the centre of the sides, and the section through the centre of the box would be 1¼ in. The frame of the lower part is beech of 9/16-in. by ⅜-in. section, the joints being fitted together as shown in Fig. 120 and glued. The bottom is of satinwood glued on even with the sides, which are veneered with burr walnut, and the top edges of the beech frame are covered with pear wood 1/16 in. thick, mitred at the corners. The beech showing inside should be covered with slips of satinwood 1/16 in. thick, with a stringing of pear wood jointed on the top edge, to stand up beyond the top edge of the frame. These slips should not be veneered on the beech, but fitted in neatly, mitred at the corners (see Figs. 121 and 122). The frame of the lid is of beech veneered on the inside with satinwood, and is ¼-in. by ⅜-in. in section. It is glued to the cover, which is 5/16 in. thick, of beech veneered on the inside with satinwood, the top side being shaped convex. The lid is veneered with the burr walnut on the top and sides, and with 1/16-in. pear wood on the closing edges of the frame.

The hinges are of silver, and appear to be hand-made, resembling the 1¼-in. brass box hinges used for similar purposes at the present day. The double snap catch is also of silver. A stringing of pear wood is worked round the top of the lid on the corner, and two rows of fine steel nails are studded 3/16 in. and ⅝ in. from the edge and ¼ in. apart. The word "Ecarté" is studded in copperplate writing in the centre, the nail heads being of various sizes to form the gradation of line in the letters. The nail heads are shaped like cut diamonds, giving the appearance of jewels.

As Fig. 119 shows, one part of the box frame is broken out, and of the four inside lining slips, but one remains. Fig. 123 is a view of the box bottom, which is split in two places, and it has had a cover of dark blue paper. A printed cutting is gummed on, having the words, "Petite boite a jeu en racine cloutée d'acier." And in pen and ink, "époque, Louis XVI." This has most likely been put on by some previous owner.

Fig. 123.- Bottom of Antique French Box

Now, a hasty workman having this article to repair would pay scant attention to these details, but would proceed to get the piece of frame glued in, and fill the cracks with putty. Instead of going to the trouble of making three more lining slips, he would dispense with the existing one, give the thing a coat of spirit varnish, and call it finished. This would be done easily in an hour, and the box would look cheap; but the owner would be more disgusted with the work than pleased with the small cost, and would most likely submit it to a better workman.

A particular workman did the work according to the following instructions: First the hinges and catch are taken off. The printed slip is carefully removed, and the blue paper stripped off from the bottom. The piece of framing is tried in place to get a perfect fit, and is then fixed with thin hot glue. The cracks in the bottom are filled by shooting a suitable shaving off a piece of satinwood and gluing it in; then this is put aside to set. For the lining slips a piece of satinwood veneer is made exactly ½ in. wide, the depth of the box, and cut into three pieces a little longer than required. The edges of these are squared by drawing in straight lines over a piece of glasspaper laid on a level piece of board. A pear-wood stringing taken from an old piece of furniture is glued on the edge of each piece, and kept in place by gluing paper over the edge (see Figs. 124 and 125). These are put in a dry place to set, and nothing more is done to the box for twenty-four hours.

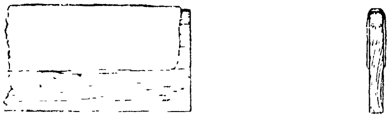


Fig. 124 and 125. Method of Jointing Stringing on Upper Edge of Lining Slips

When ready, the bottom and frame piece are trimmed free from any trace of glue, also the lining slips, using a sharp chisel, scraper, and glasspaper. Both the inside and outside of the box and lid are well cleaned up with fine glasspaper, then freed from dust and rubbed over with a piece of clean soft rag dipped in raw linseed oil. The inside is then french-polished, using a small rubber about the size of a chestnut and white polish, the lining-slip being done separately.

To give strength to the bottom, a piece of blue morocco leather is glued on, to be trimmed when set, and the box again allowed to stand for a couple of days. The leather is then trimmed with a sharp knife, and the edges stroked over with fine glasspaper. The outside is then french-polished, applying the rubber only barely moist, and handling the box parts from the inside.

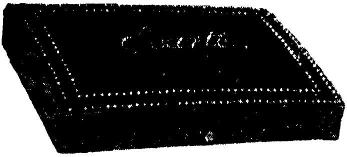


Fig. 126.—Antique French Box Finished

In polishing a small article like this, when the rubber has been all over it, a little time should elapse before it is gone over again; so another article should be polished at the same time, using the rubber for the box only when in suitable condition.

When the polish is hard enough to be handled, the lining slips are fitted in, mitred at the corners, and fixed with a little glue. The fittings are brightened up and put on, and the printed slip gummed on the bottom. This completes the work (see Fig. 126).

Upon examining the box it should be practically impossible to discern the repair work except the leather bottom and the polishing; and though it is supposed to be more than one hundred years old, it is now as good as when first made. The work will take an expert repairer five hours to complete.

CHAPTER XI

Grandfather Clock Cases

THERE are comparatively few grandfather clocks made now, though there are a great many old ones in existence.

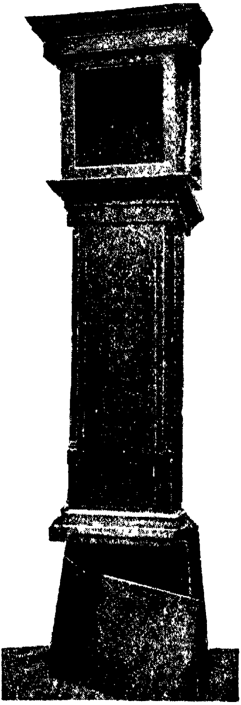


Fig. 127.—Old Clock Case with Fittings Removed

They are, as a rule, much appreciated for their age, and, when in good condition, for their beauty also, for the workmanship and the wood are nearly always good.

Wide experience suggests that the majority of grandfather clocks in use require renovating, which is only natural after many years of service. Many more there are lying away as old lumber, the owners not being sure whether they are worth the cost of putting in good repair. Some of these latter are often in very bad condition indeed, so bad that it is impossible to estimate the cost of renovating. But in every case the resultant value of the clock should justify the expenditure.

The clock here to be described is one that had lain in a lumber room for over twenty years. It was very dirty, so the first thing to do is to take off the metal fittings, and give it a good wash down with hot water and soda. It was then discovered to be of oak, with the door and lower front panel having a $\frac{5}{8}$-in. margin of mahogany cross

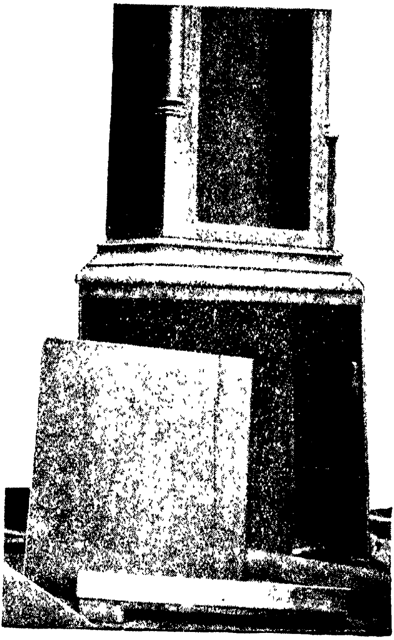


Fig. 128.—Lower Part of Clock Case

banding, and an inlay ornament of satinwood and mahogany in the centre. The turned work of the corner posts was

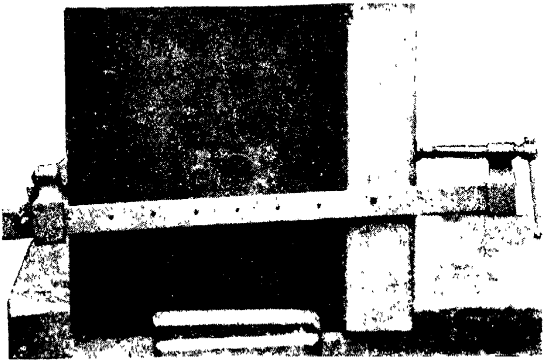


Fig. 129.—Gluing and Cramping Crack in Front Panel

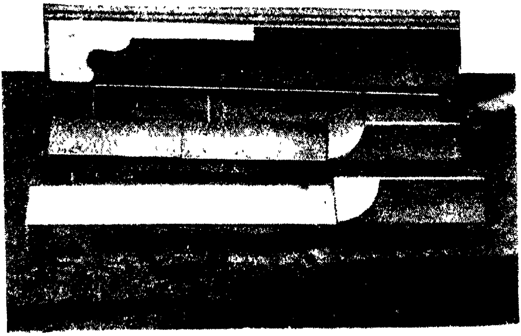


Fig. 130.—Repairing Corner Post to Match Existing One, and Making Plinth

also of mahogany, short grain. Fig. 127 shows the clock at this stage; the movement (ornamental brass dial) was submitted to an expert clockmaker for repair, and he brass fittings, consisting of the hinges and handles of he doors and the base and caps of the turned pillars ere sent to the lacquerer's.

The chief repair work required is to the lower part of the case, which is a complete wreck (see Fig. 128). A portion of the front and one of the side panels are missing from the lower edge, so a piece of old oak was found, which happened to be wonderfully exact as regards the grain and figure of the panels; this is jointed on, as shown n Fig. 129. The front panel was also badly cracked ross near the upper edge, which is remedied by running hot glue and cramping up quickly. These were then put side to set.

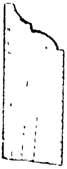


Fig. 131. Section of Plinth

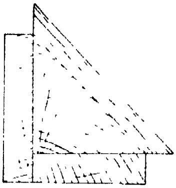


Fig. 132. Section of Corner Post

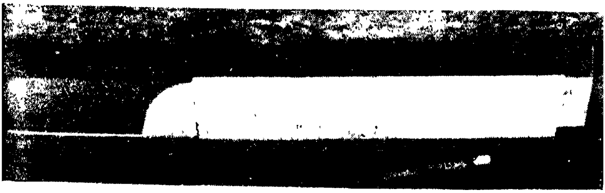


Fig. 133.—Repaired Corner Post Ready for Fixing in Position

The front parts of one of the corner posts were missing what remains being two slips of deal $1\frac{5}{8}$ in. and $1\frac{3}{4}$ in wide by $\frac{5}{8}$ in. thick nailed together at right angles, with one of the inside glue blocks still attached (shown i

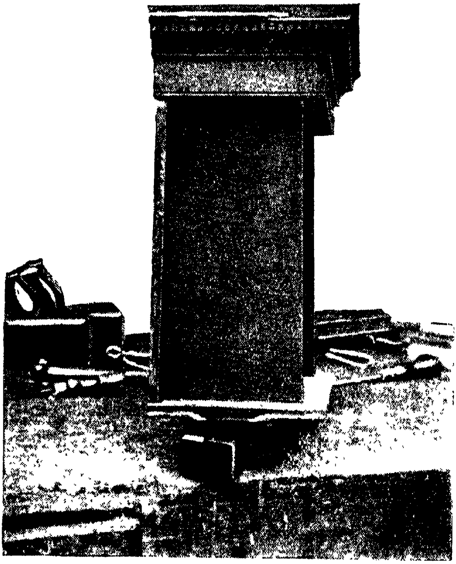


Fig. 134.—Side View of Clock Case Head, showing Broken Mouldings

Fig. 128). From the other corner post, which is almost intact, it is obvious that the broken one requires an oak block 7 in. long by $1\frac{3}{4}$ in. square, with the upper front corner shaped off. This is glued in place, and the remainder of the triangular space filled up level with deal; see

Fig. 130, which also shows the making of a new plinth. The original plinth was entirely missing but, judging from the construction, and from marks on the corner post, it is clear there should be one $3\frac{1}{2}$ in. wide. It is difficult to know what the exact shape could have been, but most probably it was something like what is shown by the pasteboard half pattern, which is used for the sides as well as the front. It is of $\frac{3}{4}$-in. old oak, moulded on the upper edge, as in Fig. 131. By the time this is done, the corner post will be sufficiently set to handle

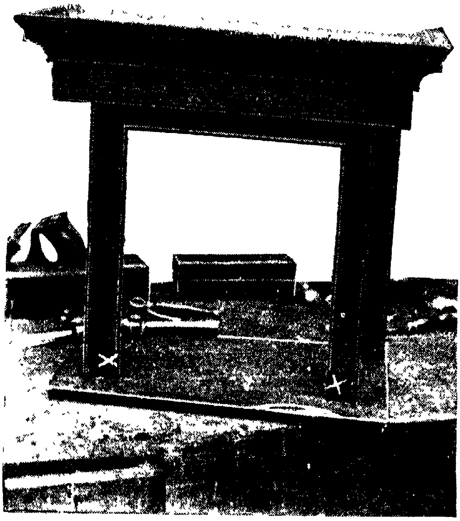


Fig. 135.—Front View of Clock Case Head, showing Break in Moulding and where Rail of Dial Frame is Missing

for facing with ¼-in. oak, short grain (see Fig. 132), the edges being bevelled off to form a square rebate to receive the edge of the front and side panel. About 1 in. at the top end is left unfaced with the oak (see Fig. 133) until it is fixed in place, when a piece of stuff 2 in. wide is required to cover the joint.

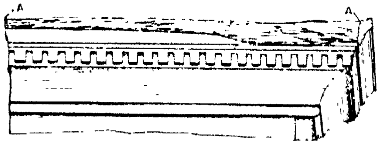


Fig. 136.—Portion of Side Cornice Moulding with Piece Broken Out (A to A)

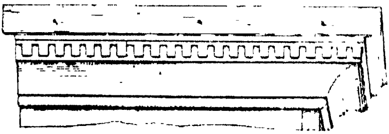


Fig. 137.—Portion of Side Cornice Moulding with Fresh Piece Fixed in: Unfinished

Upon examining the clock-case head, it was found that pieces had been knocked out of the mouldings, and the lower rail of the dial frame was missing, as indicated by the chalk marks (see Figs. 134 and 135). New pieces of old oak will have to be let in. In a case of this sort

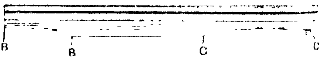


Fig. 138. Lower Side Moulding Broken (B to B and C to C)

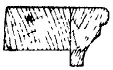


Fig. 139.—Section of Lower Side Moulding when Finished

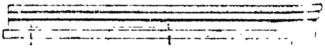


Fig. 140.—Lower Side Moulding with Fresh Piece Jointed on: Unfinished

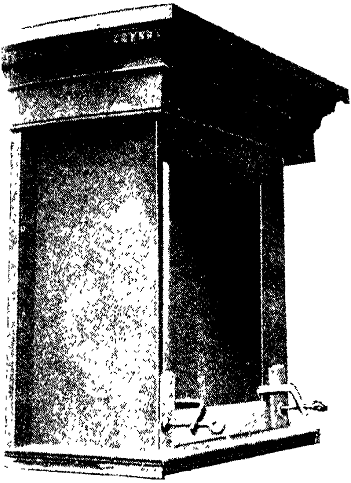


Fig. 145.—View of Clock Case Head Repaired but Unfinished

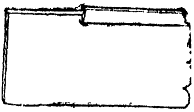


Fig. 144.—Portion of New Finished Rail for Dial Frame

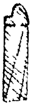


Fig. 147.—Section Showing Method of Making Beading for Clock Case.

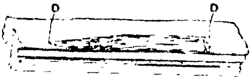


Fig. 141.—Portion of Front Moulding showing Piece Broken Out (D to D).

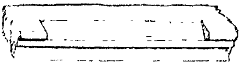


Fig. 142.—Front Moulding Prepared for Piecing.

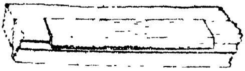


Fig. 143. Front Moulding with Fresh Piece Glued in: Unfinished.

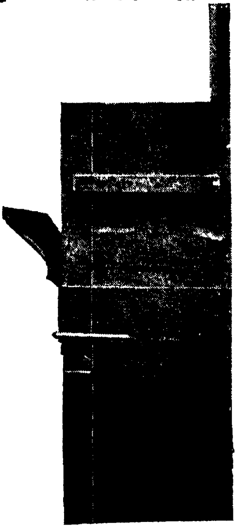


Fig. 146.—Side View of Upper Part of Clock Carcase.

it is best to get all the pieces glued in, then put aside to set, and to deal with another part of the work.

Fig. 136 shows a portion of the side cornice mould with the top ogee section broken off from A to A. This is levelled off with the plane and chisel. Then a slip a little larger than is necessary is glued in place, and further temporarily secured with a few fine nails, partly driven (see Fig. 137).

Fig. 138 shows the lower moulding with the thin edge broken from B to B and C to C. This edge overhangs ¼ in. as in Fig. 139, which is a section of the repaired moulding when finished. The broken edge is made level, and a slip put on as shown in Fig. 140.

The damage to the front moulding is shown by Fig. 141 from D to D, which is sawn and chiselled out as in Fig. 142; then a piece is glued in as shown in Fig. 143. The rail required for the dial frame is of 1½-in. by ¼-in. section, and is made to fit exact before fixing. It is "halved jointed" to the existing stiles where shown by the chalk mark crosses in Fig. 135; then it is marked for the edge to be bevelled as shown in Fig. 144. When quite ready, the "halved joints" are glued, a piece of wood put against them, and small cramps put on (see Fig. 145).

[illegible] the moulding that [illegible] (see [illegible] off [illegible]gh [illegible] the lower edge and the mitred corner. With regard to the broken beading, it is better and quicker to make a fresh piece to go right across. The beading takes a slip of stuff of ⅜-in. square section, but is made on the edge of a piece of board about 2 in. wide. It is first nearly cut through from each side with a cutting gauge; then the beading should be worked with a rebate plane (see Fig. 147). A cut now with a sharp thin blade removes it, and it is glued in place and secured with fine sprigs or needle points. Between the moulding and beading was a slit where the side panel of the carcase had shrunk from the front frame. This and any similar defects which cannot be closed can be remedied by gluing in a piece of veneer or shaving, to be trimmed off with a sharp chisel when set.

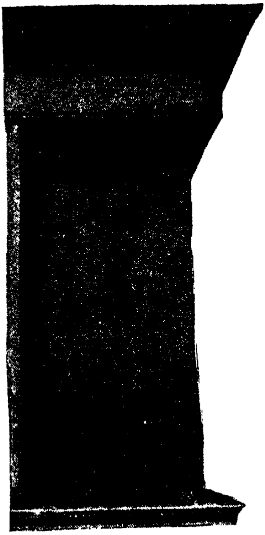


Fig. 148.—Side View of Clock Head showing Repaired Mouldings: Finished

The front and side lower panels (which had pieces ted on at the beginning of the repair work) are now for trimming to the correct size.

The banding of the front panel requires making good round the edges of the joined-on piece. It is of cross-grained mahogany about $\frac{1}{12}$ in. thick, $\frac{5}{8}$ in. wide on the side edges, and 1 in. wide on the bottom edge, and it is cut from thick veneer. The panel is prepared for the banding by removing the waste with the cutting gauge and chisel, and levelling with a bull-nose rebate plane. Then the mahogany is glued in and left in a dry place to set before trimming off.

Next the side mouldings of the clock head are attended to (see Fig. 148). The nails are first drawn, and then the joined-on pieces are shaped with the rebate and small round-soled moulding planes. The front lower moulding repair is levelled with a sharp chisel (see Fig. 149, which also shows the finished new rail of the dial frame).

The front panel is now sufficiently set for trimming and cleaning up with the scraper and glasspaper. It can then be fixed in position, together with the corner posts and side panels, using glue at all the joinings, and further securing with fine sprigs. As few sprigs as possible should be used, the strength of construction being made up by gluing corner blocks inside. The piece of $\frac{1}{4}$-in. oak for the top of the repaired corner post is then pieced in. The plinth is next fixed on, being mitred at the corners and secured to the corner posts and edges of the panels. It covers only $\frac{3}{8}$ in. of the edge of the front panel, thus making the margin of banding equal all round. A bottom of thin board is put in to keep out the dust, but is not fixed very strongly, allowance being made that in the event of the clock weights falling, the bottom will be easily knocked out without further damage. It is always wise to adopt this plan, as in some instances the weights have fallen in the night, and, smashing out the bottom, have broken the feet, thus bringing the whole clock down.

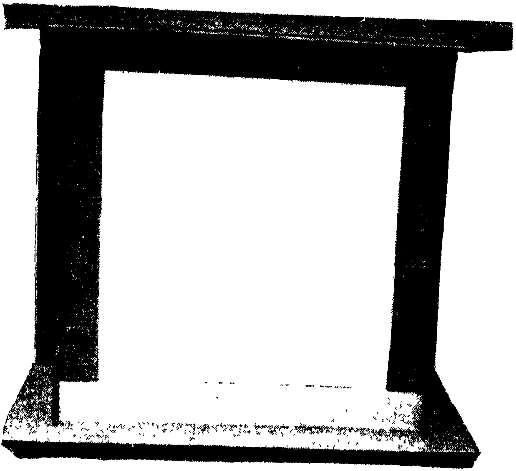


Fig. 149.—Part View of Front showing Repaired Moulding and Dial Frame

The clock feet as repaired and ready for finishing are shown by Fig. 150.

The repair work being now finished, the whole case can be scraped to remove all the old polish and varnish, also any scratches or dents. Then well clean up with No. 2 and No. 1 glasspaper, and brush free from dust.

It is now ready for polishing. First wipe all over with a soft rag dipped in raw linseed oil. This gives the wood a darker tone, and shows up the figure in the grain. When the oil has been allowed to soak in for a while, it should be well rubbed over with a clean, dry rag, and any sprig-heads showing can be punched down and filled up with putty coloured with umber. The case is kept in parts for polishing; that is, the carcase, the door, the head, the frame of the glazed door for the head, and the two turned pillars for head.

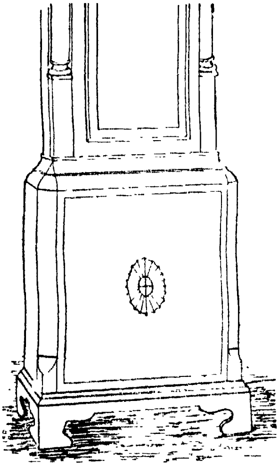


Fig. 150.—Lower Part of Clock Case with Feet Formed by Shaped Plinth.

To begin, a "rubber" should be made by folding a piece of wadding in a cover of old calico, which is twisted on the top to keep the face free from wrinkles, making it about the size of an egg. The cover should be opened, and enough french polish poured into it to saturate; then twist up again, and rub over the surface with a little linseed oil. This is applied to the front panel, rubbing lightly with a circular motion, moving along continually; then pass on to the sides, along the mouldings, etc., until the whole case has been treated. The rubber should be recharged with polish as required to keep it very moist; and the same process is repeated again and again until the wood begins to have a polished appearance. Then the rubber is not charged so often, nor quite so moist, and is worked out almost dry each time, applying a touch of oil when it gets sticky, and using a little more pressure. The motion is also varied from circular to figure eights, and in straight lines with the grain of the wood. Any of the repaired parts that are not quite dark enough can be touched up with a camel-hair brush and polish coloured with aniline walnut stain.

In the present case a very bright, glossy surface is not desirable, and ½ pt. of polish will be sufficient, leaving the grain of the wood rather open. When the polish has been allowed to harden for a day or two, the face door is glazed with brown putty, and the clock fitted up.

Finally, a few words as to cost and value will be acceptable, as showing whether the work is worth doing. In its wrecked condition the owner of the particular clock described in this chapter had occasionally considered disposing of the clock, but £2 was the highest price offered. To clean and repair the movement cost £2, and to renovate the case cost a further £2. Since its completion the owner declares he has received valuations varying from £10 to £15.

CHAPTER XII

A Chest of Drawers

THE craftsman who is good at repair work often has a chance of becoming possessed of a fine chest at comparatively small cost and less labour. The way to do this is to buy a good old chest in dilapidated condition, which can be had at about one-quarter the cost of new material, and then to put it into thorough repair.

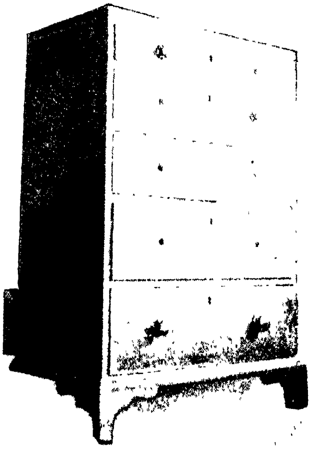


Fig. 151.—Chest of Drawers to be Repaired

The accompanying photograph (Fig. 151) is of a chest of drawers which was bought for the sum of 6s. It is of deal veneered with good saw-cut veneer fully $\frac{1}{16}$ in. thick. The front edges of the carcase are slipped with $\frac{1}{4}$-in. mahogany; the edges of the top are cross-banded, and a $\frac{1}{8}$-in. square boxwood line inlaid on the top corner.. Being in very bad condition, it has no appearance of value. Besides being very dirty, scratched, and dented, the back feet are missing, the front ones require piecing, and the drawers need some new beadings, etc. Common wood drawer knobs have been put on instead of the original brass drop handles, and the drawer stops, being knocked out of place, the drawers have pushed out the back, a part of which is missing (see Fig. 152).

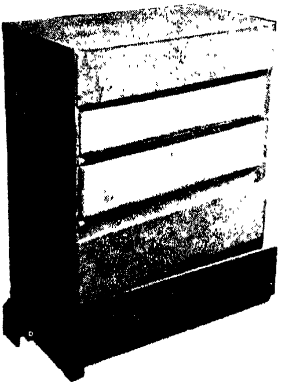


Fig. 152.—Back of Chest of Drawers to be Repaired

The first thing to do is to give the whole thing a good wash with strong soda and water, removing the drawer knobs and loose boards. It is slopped all over with the hot water to soften the old polish, which is then removed with the steel scraper, and when thoroughly clean it is finished off with plenty of pure water to remove the soda and to swell up the dents.

When dry the next thing is to get all the gluing work done. The feet should be attended to first, Fig. 153 showing the condition. The glue-blocks, being worm-eaten, have to be knocked out, and new feet made to the shape of the front ones, in solid mahogany for the sides, and deal simply cut slant for the back part. The broken front feet have pieces fitted and spliced in place, made

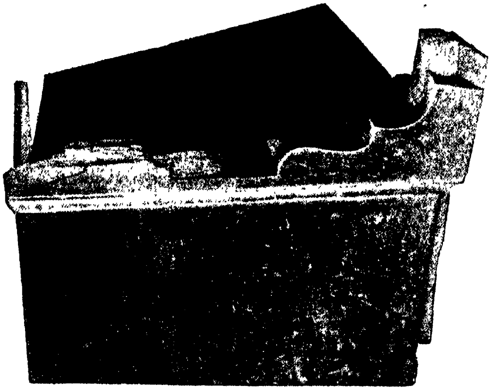


Fig. 153.—Feet of Chest of Drawers to be Repaired

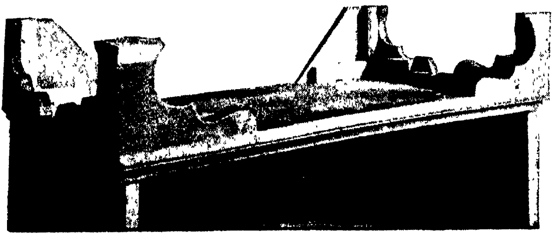


Fig. 154.—Feet in Course of Repair

to the shape before being glued, allowing a little for trimming. New glue-blocks are glued in the corners of the feet, allowing a good ⅛ in. past, as these have to bear the weight of the chest, and they are well fitted and further secured with sprigs. The other blocks are glued in place, with the end butting against the corner blocks; and after seeing that the latter are all level with each other, the square corners are trimmed off with a chisel to avoid splintering (see Fig. 154). It may be thought desirable to put a set of domes on to enable the chest to be drawn about floors smoothly.

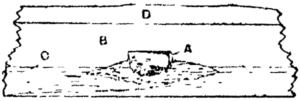


Fig. 155

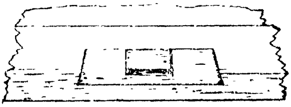


Fig. 156

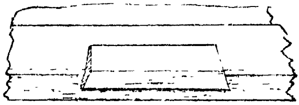


Fig. 157

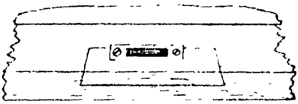


Fig. 158

Figs. 155 to 158.—Repairing Rail containing Lock Slot

The carcase of the chest of drawers cannot be turned up on to its feet until the glued work is set; but its upside-down position is correct for repairing the front edges of the rails. These are found to be broken away where the slots have been made to receive the bolts of the locks, as shown by Fig. 155, in which A represents the lock slot, B the deal rail, C the mahogany slip, and D the dust board. The rails are of 2-in. by $\frac{7}{8}$-in. deal slipped on the front edge with $\frac{1}{4}$-in. mahogany, and are repaired by cutting out and letting in a wedge-shaped piece of mahogany as in Figs. 156 and 157. It will be noticed that the pieces are sawn dovetail, and with a slight taper to ensure a tight fit. They are glued in, and when set are trimmed level, later on to have new slots cut and brass plates put on to prevent a recurrence of the trouble (see Fig. 158); but this is not done until the drawers are fitted and new locks put on.

Old locks are generally useless in these cases, so new ones should be obtained the same size to save alterations to the keyholes, etc.

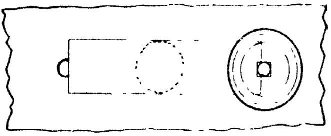


Fig. 159.—Filling Unsightly Hole in Drawer Front

One of the rails is so badly broken away as to require a new mahogany slip the full length, and parts of the drawer-front beadings are matched up to the old ones, and fixed with glue and fine wire pins.

Common wood knobs have been put on the drawers, thereby seriously damaging the fronts by the holes; because originally it has had brass drop handles, as can be traced by the markings, and it is desirable to fit it with the same kind of handle again. It is therefore necessary to repair the holes in a way that cannot be noticed.

To do this some veneer is chosen the same as on the drawer fronts, and the required number of small pieces are cut 3 in. long by ¾ in. wide. The edges are straightened, and slightly bevelled by being rubbed on a sheet of glass-paper laid flat on the bench. The pieces are then let into the drawer fronts in the manner shown by Fig. 159. The joints with the grain should be quite invisible, and the end grain joints will be covered by the circular plates of the drop handles. Each hole is treated separately, choosing the piece of veneer which matched best with the grain. It is held in place with the bevelled side down, and cut round the four edges with a sharp-pointed knife. To remove the old veneer it should be scored with the knife and wetted with methylated spirit, and a piece of felt slightly less in size is steeped in spirit and laid on; a light is then applied and allowed to burn out. This softens the glue under the veneer, which is then removed with a

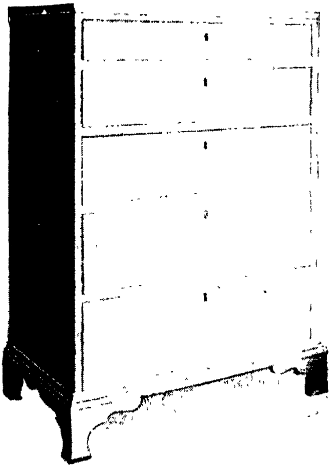


Fig. 160.—Chest of Drawers Ready for Polishing

small chisel. The piece to be inlaid is wetted on the outside with hot water; then hot, strong, but rather thin, glue is applied on the other side and to the drawer front, and put quickly in place, squeezing out the surplus glue with the hammer and fixing with a few temporary pins if necessary. Allow ample time to set, and then fill up the holes with deal on the inside of the drawer fronts, remove the pins from the veneer, and level with a sharp scraper.

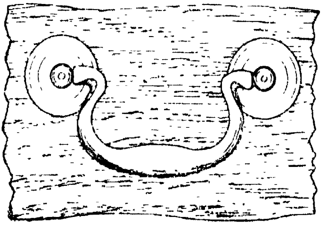


Fig. 161.—New Drop Handle on Drawer Front

The old backboards of the carcase are taken out and rejointed, the missing parts being supplied with deal board, stained to match with burnt sienna in thin glue size.

The drawers should now be tried in place, and regulated with stops to close even with the rails, and the locks fitted.

The whole chest of drawers is next well cleaned up with No. 2 and No. 1 glasspaper, the inside of the drawers and drawer ways being also trimmed up. Next the chest is brushed free from dust inside as well as out, and rubbed over with linseed oil. The drawer sides, bearers, and rails are oiled to make them run freely. Fig. 160 shows the chest at this stage ready for polishing. Any parts showing a shade too light may be darkened by touching over with a solution of bichromate of potash in hot water, and when dry rubbed with worn glasspaper.

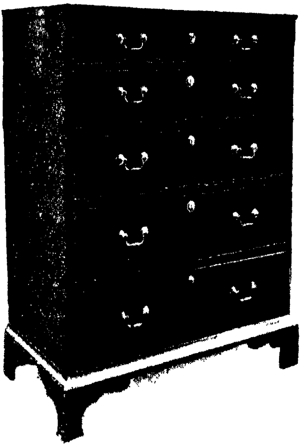


Fig. 162.—Finished Chest of Drawers

A grain filler is next made with whitening coloured with a little rose pink and turpentine, a little linseed oil being added as a binder, and the whole mixed to the consistency of thick paint. This is applied with a coarse rag, being well rubbed in to fill up the pores of the mahogany and left to dry for an hour or so, the surplus being then cleaned off with fresh rags. It is next polished with a rubber in the usual way, using only ordinary brown french polish, both glaze and varnish being avoided. The process is proceeded with until a smooth, hard, thin polish is attained. As it is desired to present an antique appearance, a very bright finish is not required.

The antique pattern handles and keyhole plates to match (see Fig. 161) are now put on, and this completes the chest of drawers (see Fig. 162), which ought to prove a very presentable piece of furniture.

CHAPTER XIII

A Circular Desk Chair

In repairing furniture the worker has often to invent makeshift appliances. An instance occurs in the repairing of the circular stand of a revolving desk chair. The legs are 2 in. square in section, tapering to 1½ in. at the

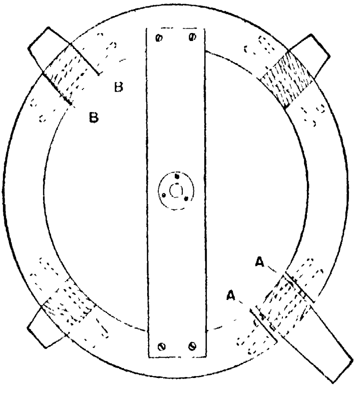


Fig. 163.—Desk Chair Seat Broken at a Joint

foot and curved slightly outward. The four curved rails are also 2 in. square in section. The top end of the legs is joined between the ends of the rails with dowels, and one of the legs is breaking away at the joints, as shown at A A (Fig. 163).

An indifferent worker would run glue between the joints and try to close them up by driving in nails, which would only result in serious damage being done.

A practical workman might seem to be making a much bigger job of it, but he would most probably

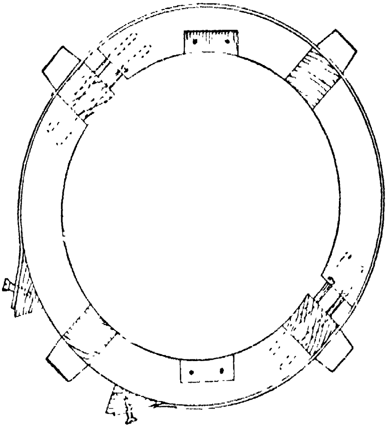


Fig. 164.—Method of Cramping Desk Chair Seat

get it done in less time, and the result would be that the chair would be as strong and perfect as ever it was.

On examining the joints B B (Fig. 163) of the opposite leg they are found to be somewhat strained, so it is well to remake them at the same time. In any case, they would have to be undone or cut through to re-dowel the broken joints.

The first thing to do is to take out the stretcher rail, saw through the strained joints, and remove the old dowels from the legs and rails. In boring out the dowels, a smaller bit should be used, and the remains picked out with a small gouge. This is necessary to keep the holes from being altered. The joint surfaces are cleaned free from old glue and new dowels cut and slightly rounded at the points.

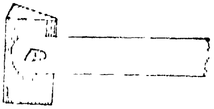


Fig. 165.—End of Lath Attached to Triangular Block

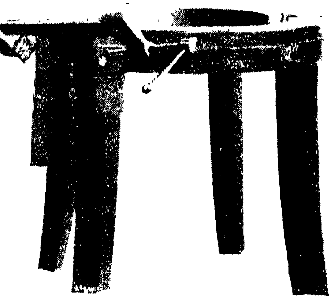


Fig. 166. Desk Chair Seat in Course of Cramping

Not one workshop in fifty possesses the proper cramp for this job, so a common iron bedstead lath is bent into a circle, and the ends are attached to two triangular pieces of wood, as in Figs. 164 and 165. The legs are glued and dowelled in place to one half of the circular frame, being hammered up close; then the other joints are glued and put together. The lath and blocks are put round as shown by Fig. 164, and an ordinary cramp (see Fig. 166) used to bring the blocks closer together, thus forcing up the dowelled joints; occasional taps with the mallet will be a help. The stretcher rail is next re-fixed and the cramp left on till the joints are set. The stand should be as good as ever.

CHAPTER XIV

A Toilet Mirror

The accompanying reproduced photograph (Fig. 167) is of a mirror which was purchased at a broker's shop for two shillings, and was submitted to the writer to restore

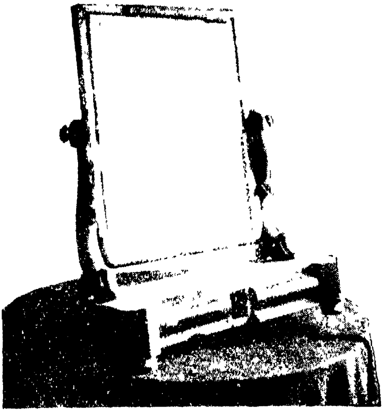


Fig. 167. Toilet Mirror to be Repaired

to its original value, which would be at least two pounds. It is a fair example of the condition into which such things get after years of abuse. It is almost black with dirt, some of the parts broken off and missing, including one back foot, which gives it a tilt, and on moving the mirror allows it to rock dangerously. Most of the cross-band facing is off the front of the frame, and a piece of broom handle has been stuck on to keep the glass from falling out; the mirror frame is swung upside-down. Fig. 168 shows an end view with the veneered work badly damaged.

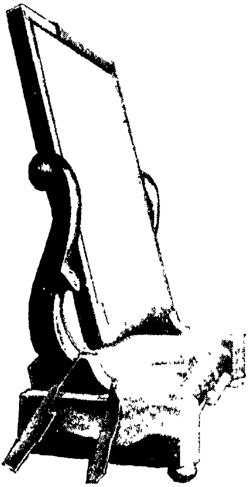


Fig. 168.--End View of Mirror showing Damaged Veneer

First of all, the glass should be taken out to be resilvered at a cost of 1s. 6d., not with quicksilver, as previously, but by the modern method. The woodwork of these old mirrors is, generally speaking, superior to the modern; but with glass silvering the modern is the better. There are two odd knobs on the mirror movements; but a little judgment soon shows which is the right one, and another should be turned to match it; much the same applies to the missing foot.

The first thing towards repairing is to get all the glued work done, and for convenient handling the mirror frame, standards, and feet are removed. The end of the stand is so bad that it is better to completely veneer it than attempt piecing it. The old veneer is removed with the thin blade of a knife, and kept for matching in small pieces on the front edges of the drawer-ways. A piece of veneer similar to the original is chosen for the end, and put on to stand over $\frac{1}{8}$ in. all round, using ordinary brass pins to make it lie level at places where it is inclined to rise up. These pins are better than needle-points or brads, because they do not leave black stains. The top edge should be trimmed level with a sharp chisel, in order to fit a piece of veneer on at the corner. The piece is cut to cover the broken-off part, arranging to get the join to be hidden by the standard, and glued in place to overhang slightly (see Fig. 169).

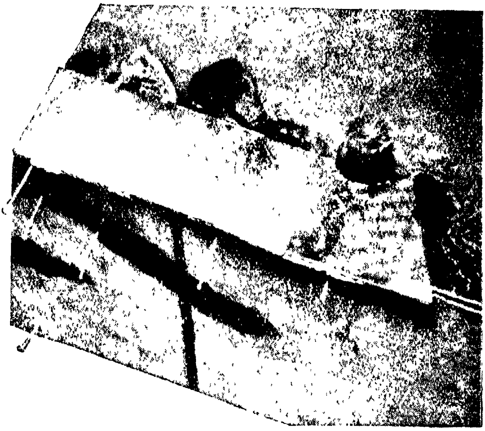


Fig. 169.—Portion of Mirror newly Veneered

Between the two drawers there has been an ornament similar to the front corners; but it is intended to replace this, not fixed as before, but as a drawer front, so the front edges of the stand may be veneered completely with the stuff that came off the end (*see* Fig. 170). The

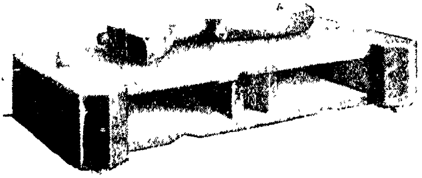


Fig. 170.—Mirror Stand in Course of Repair

drawers are of cedar wood fronted with mahogany. One must have the triangular part of the moulded front replaced; the other some thin, strong glue run into a split in the side and cramped close (*see* Fig. 171). Fig. 172 shows the small drawer made to fit the centre space, the

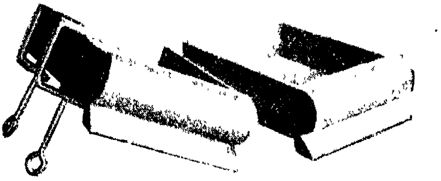


Fig. 171.- Mirror Drawers in Course of Repair

front being a block of solid mahogany veneered on the top to match the top surface of the stand.

For the front of the mirror frame a sufficient quantity of mahogany is cut 1½ in. wide by ¼ in. thick (cros grain), and glued on piece by piece, as in Fig. 173, to be trimmed when set to match the old.

The glued work should be allowed a week to set. This is best when the time will permit, although work can be resumed after about twelve hours in a dry, warm place, if necessary. The veneer work should first be trimmed with a sharp chisel. Then the cross-banding of the mirror

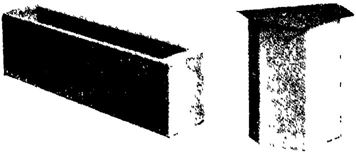


Fig. 172. – Small Drawer for Centre Space of Mirror

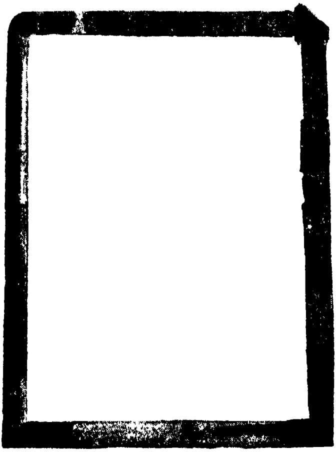


Fig. 173.—Mirror Frame in the Rough

frame is cut to the width of the old and trimmed with a small bull-nose plane. Then the whole stand, drawers, standards, frame, feet, knobs, and the glass back of cedar, are cleaned all over free from dirt, glue, or old polish. This is done with a well-sharpened steel scraper, No. 2 and No. 1 glasspaper, and it will reveal the rich colour and beautiful feathery "figure" of the mahogany;

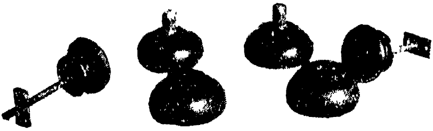


Fig. 174.—Turned Feet and Mirror Movement

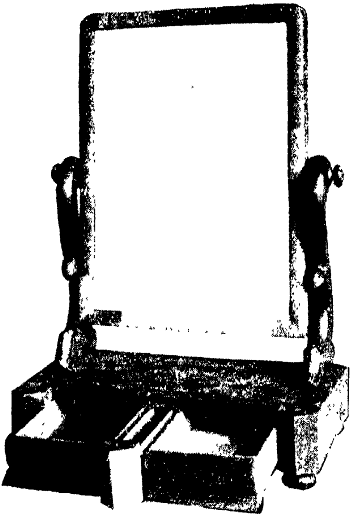


Fig. 175.—Mirror Cleaned Up Ready for Polishing

Fig. 174 shows the four feet and the two mirror movements. These are put on, and the stand fitted up to see that all is right (*see* Fig. 175), and as it is intended to use the centre drawer for rings, etc., it is desirable to make it into a secret drawer. To give it the appearance of not being a drawer at all, a foot is put on it, slightly smaller than the others, that it may open with ease (*see* Fig. 176). It is now taken apart for polishing. Some of the mahogany being a shade too light in colour, it needs to be touched over with a weak solution of bichromate of potash. When dry it is smoothed with fine glasspaper, and the wood rubbed all over with a clean, soft rag dipped in

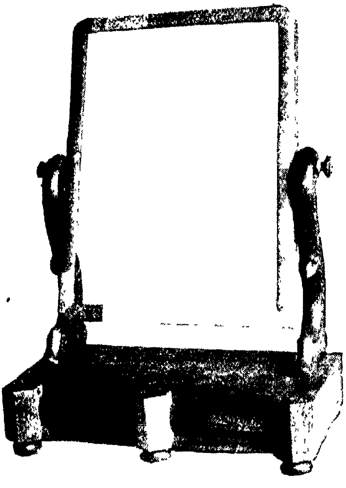


Fig. 176.—Mirror with Drawer Closed

raw linseed oil. A grain filler is then made with whiting coloured with rose pink, and mixed with turpentine to the consistency of thick paint, and a little linseed oil

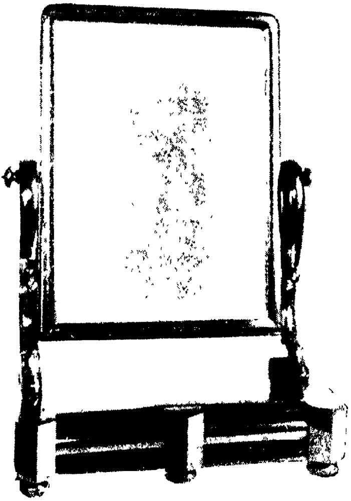


Fig. 177.—Mirror Completely Finished and Polished

added. This is rubbed into the open grain wood, especially of the mirror frame.

After allowing it to dry in somewhat, it is rubbed off clean and french-polished with a rubber in the usual way. It is allowed three days for the polish to get hard, then the glass is fixed in with small triangular blocks; but before this the inside of the rebate should be stained black, so as to show no reflection. The feet are finally fixed with glue, also the standards, and the mirror swung in place at once, and the backboard put in and fixed with a couple of screws. This completes the mirror, as in Fig. 177, which shows a very desirable piece of furniture. The other two drawers are, in a way, meant to be secret. They pull out from underneath; but no device is attached to keep them fixed in position.

CHAPTER XV

Treatment of Antique Furniture

FIG. 178 shows one of four chairs renovated by the writer. It is an antique chair in dark mahogany, with a carved splat in the back and a coat of arms in satinwood inlaid in the centre of the top panel. The remaining space of the panel, and the front surfaces of the uprights, rails and legs, are inlaid with flowers and leaves in a wood resembling white holly stained green for the leaves and a rose-pink colour for the flowers.

These chairs came to hand very shabby in appearance, the mahogany had a brown colour almost like walnut, and the inlay seemed all about the same colour, a dull yellow. This was due to the surfaces of the woods being much faded and also to repeated applications of brown french polish It was not until the old polish had been removed with a steel scraper that the true colours became visible.

After being scraped, the chairs were smoothed with No. 1 glasspaper, then brushed free from dust, and rubbed over with a rag dipped in raw linseed oil. They were left over-night, then rubbed as clean as possible with a dry napless duster, and french-polished with a rubber in the usual way, using white polish, which brought out the colours and gave a fine finish.

The seats were re-covered with silk tapestry. This was done by stripping off the old covers, laying them on the new material in a manner to get a symmetrical pattern on each chair alike, and cut out, allowing ½ in. all round for turning in. The seats were covered first with a sheet of white wadding, then the tapestry fixed over with ⅜-in. tacks stretched straight and tight. The edges were finished ith a scroll gimp to match, fixed with ⅜-in. gimp pins,

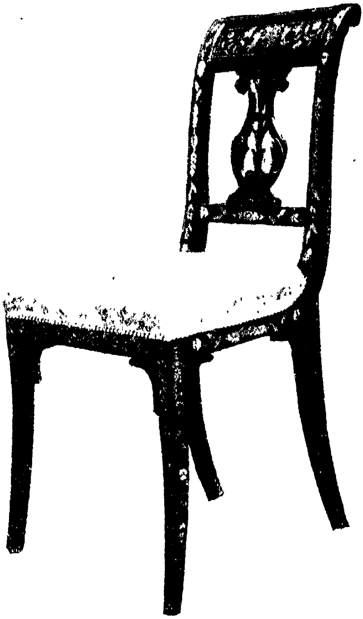


Fig. 178.—Antique Inlaid Chair

which were hidden in the threads by using a fine punch. This treatment gave them the appearance of valuable chairs, which they undoubtedly were.

Old Oak Carved Furniture.—Finally, this handbook will consider the proper method of treating old oak furniture and carvings, which when purchased, besides being dirty, are often encrusted, and the carvings and mouldings clogged, with beeswax; they may have been varnished or even painted, or they may be worm-eaten.

In case there should be any insects in the joints and crannies, take a feather, and, using a mixture of paraffin and benzoline, thoroughly treat all doubtful parts. Any greasy marks left by the paraffin can be removed afterwards. But there may be insect life in the wood itself, and that of a kind far from easily disposed of—the grub. There are many kinds of wood-boring grubs, but that which is chiefly to be dreaded is the larva of a small brown beetle, about $\frac{1}{12}$ in. in length, which takes wing in its mature state in the month of July. It may then be seen on ceilings, walls, etc., near worm-eaten woodwork, and as a means of preventing further mischief it should destroyed. It is easily killed, for it is a sluggish insect, and makes little attempt to escape. The baby beetle, a tiny white grub, affects beech and pear more than other woods. It is slow to attack woods of the fir kind. In oak these pests quickly riddle the sap or outer part, but do not readily penetrate the heart. It is generally after exposure to damp that heart of oak becomes subject to their attacks. The grub buries itself so deeply in the wood that it is not easily reached.

There are many recipes for destroying it, of which the following are very good: (1) Corrosive sublimate, 1 oz. to 1 pt. of warm water. This is a deadly poison, to be handled with care. (2) Vitriol dissolved in warm water. This also is poisonous. (3) Oil of cassia. (4) Camphor dissolved in paraffin. (5) Decoction of bitter apple. (6) Fumigation by sulphur, the wood to be treated being shut in an air-tight box. (7) Benzoline, which is very penetrating and effective. Each recipe should be repeated after a few days, and the grub holes stopped with a mixture of 3 parts of beeswax to 1 of resin.

For removing dirt from old furniture, nothing is better than scrubbing the article with washing soda dissolved in warm water. This also removes any beeswax which has been put on. But if hard varnishes have to be removed, scrub with the following mixture: American potash, soft soap, washing soda, and rock ammonia, ½ lb. of each, dissolved in 1 gal. of hot water, and with a few drops of nitric acid added.

Oak panelling, etc., that has been painted is renovated by coating with a strong solution of American potash thickened with sawdust, and leaving it for about twelve hours. The paint will then be so softened that it can be washed off. When the wood is dry its rich dark colour can be restored by well rubbing with boiled oil.

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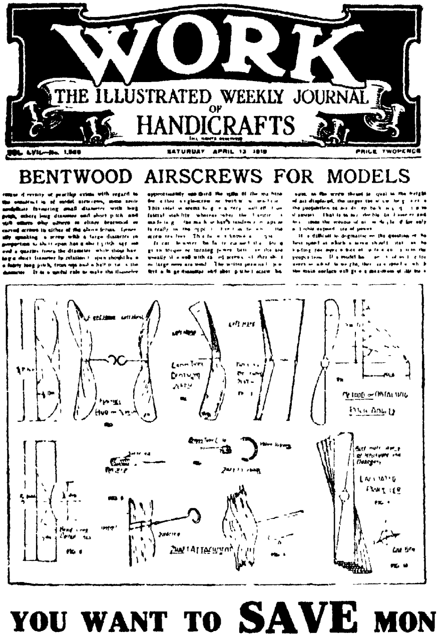

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